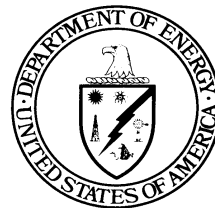




E.O. Lawrence Berkeley National Laboratory  
University of California  
Environmental Restoration Program



United States Department of Energy

## ENVIRONMENTAL RESTORATION PROGRAM

### **QUARTERLY PROGRESS REPORT SECOND QUARTER FISCAL YEAR 2008 (January 1 to March 31, 2008)**

for the  
Lawrence Berkeley National Laboratory  
Hazardous Waste Facility Permit

August 2008

**QUARTERLY PROGRESS REPORT  
SECOND QUARTER FISCAL YEAR 2008  
(January 1 to March 31, 2008)**

for the Lawrence Berkeley National Laboratory  
Hazardous Waste Facility Permit

*Environment, Health and Safety Division*  
Ernest Orlando Lawrence Berkeley National Laboratory  
Berkeley, CA 94720

August 2008

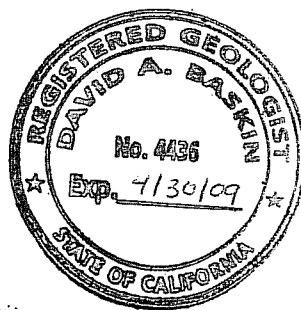
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**QUARTERLY PROGRESS REPORT**  
**SECOND QUARTER FISCAL YEAR 2008**  
(January 1 to March 31, 2008)

August 2008



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## LIST OF ABBREVIATIONS

BC	BC Laboratories
Cal-EPA	California Environmental Protection Agency
CAP	Corrective Action Program
CMI	Corrective Measures Implementation
CMS	Corrective Measures Study
COCs	Chemicals of Concern
DCA	Dichloroethane
DCE	Dichloroethene
DO	Dissolved Oxygen
DOE	U.S. Department of Energy
DTSC	Cal-EPA Department of Toxic Substances Control
EBMUD	East Bay Municipal Utility District
EH&S	Environment, Health and Safety Division
EML	LBNL Environmental Measurement Laboratory
EPA	U. S. Environmental Protection Agency
ERP	Environmental Restoration Program
FY	Fiscal Year (October 1 to September 30)
GAC	Granular Activated Carbon
HRC	Hydrogen Release Compounds <sup>®</sup>
HWHF	Hazardous Waste Handling Facility
HQ	Hazard Quotient
ICMs	Interim Corrective Measures
ILCR	Incremental Lifetime Cancer Risk
LBNL	Lawrence Berkeley National Laboratory
MCL	Maximum Contaminant Level
MCS	Media Cleanup Standard
MDA	Minimum Detectable Activity
mg/kg	milligrams per kilogram
MNA	Monitored Natural Attenuation
m/s	meters per second
µg/L	micrograms per liter (10 <sup>-6</sup> grams per liter)
NA	Not Analyzed
ND	Not Detected
NTLF	National Tritium Labeling Facility
PCA	Tetrachloroethane

PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene (Perchloroethene)
pCi/L	picocuries per liter ( $10^{-12}$ curies per liter)
QA	Quality Assurance
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation
RPM	Remedial Project Manager
SWRCB	State Water Resources Control Board
TCA	Trichloroethane
TCE	Trichloroethene
TPH	Total Petroleum Hydrocarbons
TSCA	Toxic Substances Control Act
UC	University of California
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
Water Board	San Francisco Bay Regional Water Quality Control Board

## EXECUTIVE SUMMARY

This quarterly progress report describes activities conducted by the Ernest Orlando Lawrence Berkeley National Laboratory (LBNL) under the Resource Conservation and Recovery Act (RCRA) Corrective Action Program (CAP) from January 1 through March 31, 2008 (second quarter of fiscal year 2008 [FY08]), the current reporting period. The primary activities conducted during the reporting period included conducting cleanup activities and monitoring groundwater quality to assess progress towards achieving required groundwater cleanup levels [Media Cleanup Standards (MCSs)]. Groundwater monitoring data indicate that the corrective measures implemented by LBNL continue to be effective in reducing concentrations of volatile organic compounds (VOCs) in the groundwater, the groundwater plumes are stable or attenuating, and contaminants are not migrating offsite in the groundwater.

LBNL is currently in the Corrective Measures Implementation (CMI) phase of the CAP. The purpose of the CMI phase is to design, construct, operate, maintain, and monitor the corrective measures (cleanup activities) approved by the California Environmental Protection Agency Department of Toxic Substances Control (DTSC). The corrective measures required for soil have been completed. The corrective measures required for groundwater consist of in situ soil flushing and groundwater capture, subsurface injection of Hydrogen Release Compound<sup>®</sup> (HRC), and Monitored Natural Attenuation (MNA). These measures have been implemented and are currently in the operation, maintenance, and monitoring phase. A listing of the measures is provided in the following table.

## Summary of DTSC Approved Corrective Measures for Groundwater

Groundwater Unit	Ongoing Corrective Measure
Building 71B Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• In situ soil flushing/HRC injection in the source area.</li> <li>• Capture and treatment of contaminated Building 51 area hydrauger effluent.</li> </ul>
Building 51/64 Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• In situ soil flushing in the source area.</li> <li>• MNA for contaminants in the downgradient plume area.</li> <li>• HRC injection in the upgradient core area.</li> <li>• Extraction and treatment of contaminated water from the Building 51 subfloor drainage system.</li> <li>• Extraction of groundwater from EW51-07-1 and EW51-07-2 to control migration of contaminated groundwater southward under Building 51.<sup>(a)</sup></li> <li>• Extraction of groundwater from EW51B-07-1 and EW51B-07-2 to control potential downgradient migration.<sup>(a)</sup></li> </ul>
Building 51L Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• Extraction and treatment of groundwater from EW51L-06-1 and EW51A-06-1.</li> <li>• Extraction and treatment of water from the concrete sump installed inside Building 51A.</li> </ul>
Building 7 Lobe Old Town Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• In situ soil flushing in the source area (Building 7 Groundwater Collection Trench) downgradient of the former Building 7 sump location.</li> <li>• In situ soil flushing in the core area downgradient from the Building 7 Groundwater Collection Trench.</li> <li>• Operation of the Building 58 West and Building 58 Southeast Groundwater Collection Trenches and groundwater extraction well EW58-07-1<sup>(a)</sup> to control plume migration.</li> <li>• Dual-phase (groundwater and soil vapor) extraction on the Building 53/58 slope.</li> <li>• Extraction and treatment of water from a concrete sump (SB58-98-4).</li> <li>• MNA for contaminants in the peripheral plume areas.</li> </ul>
Building 52 Lobe Old Town Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• In situ soil flushing (injection and extraction wells) in the source area.</li> <li>• Collection and treatment of groundwater from the Building 46 subdrain at the downgradient lobe margin.</li> </ul>
Building 25A Lobe Old Town Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• In situ soil flushing (infiltration bed and extraction trench) west of Building 25A in the source area.</li> <li>• In situ soil flushing south of Building 25.</li> <li>• Extraction and treatment of water from electrical utility manhole EMH-133.</li> </ul>
Building 69 Area	<ul style="list-style-type: none"> <li>• Enhanced bioremediation (MNA with HRC injection) in the source area.</li> </ul>

(a) These actions were implemented to enhance the approved corrective measures subsequent to approval of the Corrective Measures Implementation (CMI) Report.

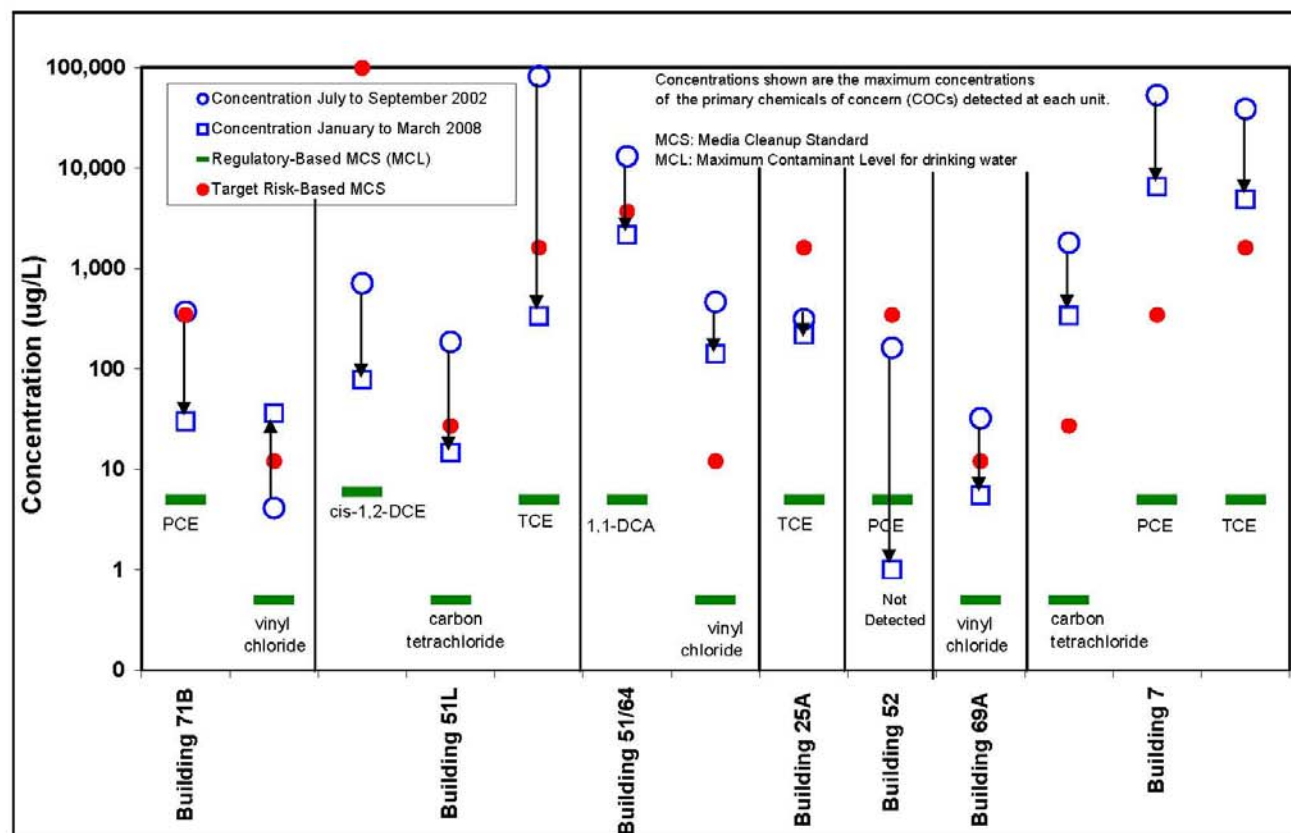
Cleanup to target risk-based MCSs is the short-term goal for areas of LBNL where groundwater is not considered a potential drinking water source (i.e., does not meet State Water Resources Control Board [SWRCB] well yield criteria of at least 200 gallons per day). Cleanup to regulatory-based MCSs (Maximum Contaminant Levels [MCLs] for drinking water) is the short-term goal for areas where groundwater does meet the SWRCB well yield criteria. The overall long-term goal for all groundwater at LBNL is the reduction of groundwater concentrations to MCLs, if practicable. The groundwater at LBNL is not used for domestic, irrigation, or industrial purposes; drinking water is supplied by the East Bay Municipal Utility District (EBMUD).

The progress of corrective measures toward achieving the required groundwater cleanup levels (risk-based and/or regulatory-based MCSs) is illustrated on the following graph. The graph shows that at each of the groundwater units where corrective measures are required, the maximum concentrations of the primary Chemicals of Concern (COCs) detected have been substantially reduced over the approximately five-year period since 2002. Similar reductions have been observed in the other contaminants detected at each unit. The increase in the concentration of vinyl chloride observed in the Building 71B plume is likely the product of the biodegradation of other chlorinated compounds by reductive dechlorination.

Seventeen wells monitor for potential migration of contaminated groundwater beyond the site boundary or the developed areas of the site. Except for one of these wells (MWP-7), VOCs have either not been detected or only anomalously detected in the groundwater, with no VOCs detected since July 2004. Concentrations of VOCs detected in MWP-7 have been decreasing, with all concentrations below MCLs for drinking water after February 2000.

Extracted groundwater and contaminated effluent from drain lines and hydraugers are treated using granular activated carbon (GAC) systems. During the reporting period 3,946,553 gallons of water were treated, with more than 83 million gallons treated to date. Most of the treated water is injected into the subsurface for in situ soil flushing purposes. The remainder is discharged to the sanitary sewer in accordance with the provisions of LBNL's East Bay Municipal Utility District (EBMUD) Wastewater Discharge Permit.

## Five Year Cleanup Progress at Groundwater Units where Corrective Measures are Required



Selected groundwater samples were analyzed for hydrochemical parameters indicative of the potential for biodegradation. These analyses were conducted to assess the potential effectiveness of MNA and/or enhanced bioremediation in reducing contaminant concentrations. The hydrochemical parameters generally indicate conditions favorable for biodegradation in most of the monitored wells.

Surface water samples were collected in February 2008 from seven creeks flowing from LBNL and analyzed for VOCs and metals. Samples from two of the creeks were also analyzed for tritium. No VOCs or tritium was detected. Concentrations of metals detected were consistent with previous results and are likely naturally occurring.

Characterization and excavation of polychlorinated biphenyl (PCB) contaminated soil at the Building 17 Former Scrapyard and Drum Storage Area (Solid Waste Management Unit [SWMU] 2-3) were completed. All soil with concentrations of PCBs above the Toxic Substance Control Act (TSCA) self-implementing cleanup level of 1 mg/kg for PCBs in soil in high-occupancy areas was removed. This level is considered safe for unrestricted land use (including residential).

Radionuclides, including tritium, are not regulated under RCRA and are therefore not included in the RCRA CAP; however, tritium data have been included in the quarterly reports in order to provide a comprehensive evaluation of the status of site contaminants. Concentrations of tritium have been declining in almost all wells monitoring the Building 75 Tritium Plume since closure of the National Tritium Labeling Facility (NTLF) in December 2001, with a concurrent reduction in the lateral extent of the plume. Concentrations of tritium have been below the MCL (<20,000 pCi/L) in all wells since February 2005, with a maximum detected concentration of 15,600 pCi/L during the current reporting period.

# **SECTION 1**

## **INTRODUCTION**

### **1.1 BACKGROUND**

The Ernest Orlando Lawrence Berkeley National Laboratory (LBNL) Hazardous Waste Handling Facility (HWHF) operates under a Resource Conservation and Recovery Act (RCRA) Part B Hazardous Waste Facility Permit issued by the California Environmental Protection Agency (Cal-EPA) Department of Toxic Substances Control (DTSC). The Permit requires LBNL to investigate and address all releases of hazardous waste that may have occurred at the site, in accordance with RCRA Corrective Action Program (CAP) requirements. These activities are the responsibility of the LBNL Environmental Restoration Program (ERP), which is a program of the Environmental Services Group of the LBNL Environment, Health and Safety (EH&S) Division. This quarterly progress report describes RCRA CAP activities conducted at LBNL from January 1 through March 31, 2008 (second quarter of fiscal year 2008 [FY08]), the current reporting period.

LBNL is currently in the Corrective Measures Implementation (CMI) phase of the CAP. The purpose of the CMI phase is to design, construct, operate, maintain, and monitor the corrective measures (cleanup activities) recommended by LBNL in the Corrective Measures Study (CMS) Report (LBNL, 2005a) and approved by the DTSC. On April 2, 2007, LBNL submitted its RCRA Corrective Measures Implementation (CMI) Report to the DTSC (LBNL, 2007). The CMI Report provided a consolidated record of the construction and implementation of the DTSC approved corrective measures. It also provided the data to support a determination that corrective measures had been completed at the two soil units included in the CMI, and documented that the measures implemented for groundwater were generally effective in reducing concentrations of the Chemicals of Concern (COCs). These measures consist of the operation of in situ soil flushing and groundwater capture systems, subsurface injection of Hydrogen Release Compound<sup>®</sup> (HRC), and Monitored Natural Attenuation (MNA).



## **1.2 PURPOSE AND SCOPE**

The primary purpose of this quarterly progress report is to document the progress of the implemented corrective measures toward achieving the required groundwater cleanup levels (Media Cleanup Standards [MCSs]) (LBNL, 2005a) from January 1 through March 31, 2008 (second quarter of fiscal year 2008 [FY08]). An additional purpose of the report is to document that site groundwater plumes are stable or attenuating and that the plumes are not migrating offsite.

Quarterly summaries of RCRA CAP activities conducted prior to the current reporting period (since January 1993) have been presented in the LBNL ERP Quarterly Progress Reports (LBNL, 1993-2008). Annually, the fourth quarterly progress report of each fiscal year includes a complete tabulation of historical groundwater data for volatile organic compounds (VOCs), a four-quarter tabulation of groundwater data for other analytes, and a more extensive discussion of long-term concentration trends than is provided in the other three quarterly progress reports. The most recent annual status summary report is the fourth quarter FY07 report (LBNL, 2008).

## **1.3 SITE DESCRIPTION AND HISTORY**

LBNL is a multi-program scientific research campus operated by the University of California (UC) for the United States Department of Energy (DOE). From an initial emphasis on nuclear physics research in the 1940s, LBNL has grown into a multi-program scientific research facility that includes energy, life and environmental sciences, high performance computing, and physical sciences. It is located on a 202-acre parcel of UC Regents' land in the Berkeley/Oakland Hills in Alameda County, California (Figure 1). The western three-quarters of LBNL are in the City of Berkeley and the eastern quarter is in Oakland. A map of the site showing the locations of site creeks and the surface topography is included as Figure 2.

For reporting purposes, the RCRA Facility Assessment (RFA) (LBNL, 1992a) subdivided LBNL into 15 Areas. Subsequently, during the RCRA Facility Investigation (RFI), the 15 RFA Areas were grouped into four areas (Bevalac, Old Town, Support Services, and Outlying), based on the locations of groundwater plumes, the direction of groundwater flow, and potential contaminant migration pathways. Figures and tables presented in this report are

organized based on these four areas. The locations of the four areas and the 15 RFA Areas are shown on Figure 3.

## 1.4 TERMINOLOGY

Groundwater contaminant plumes presented in this report are described using the terminology listed in the following table to refer to relative directions and zones within each plume.

**Groundwater Plume Terminology**

<b>Term</b>	<b>Definition</b>
Plume	A volume of contaminated groundwater that extends outward in the direction of contaminant migration (primarily the groundwater flow direction) from a source of contamination.
Upgradient	In the direction from which groundwater flows (direction toward greater hydraulic head).
Downgradient	In the direction of groundwater flow (direction toward lesser hydraulic head).
Crossgradient	In the direction perpendicular to groundwater flow.
Source	The location where the contaminant was released to the environment.
Core	The area of relatively high contaminant concentrations extending downgradient from the source.
Plume-Periphery	Downgradient or crossgradient from the core near the plume margins.
Background	Upgradient or crossgradient from the plume where wells are not affected by contamination.
Off-Site	Outside the property boundary.

## **SECTION 2**

### **ENVIRONMENTAL ACTIVITIES CONDUCTED DURING THE CURRENT REPORTING PERIOD (January through March 2008)**

#### **2.1 GROUNDWATER MONITORING**

##### Summary of the Groundwater Monitoring Program

The primary purpose of groundwater sampling during the CMI phase of the CAP is to monitor the effectiveness of the implemented corrective measures toward achieving the required groundwater MCSs. The data are also used to document that site groundwater plumes are stable or attenuating and that the plumes are not migrating offsite. To accomplish these objectives, groundwater samples are collected from groundwater monitoring wells and analyzed for VOCs in accordance with the schedule (LBNL, 2005b) approved by the Regional Water Quality Control Board - San Francisco Bay Region (Water Board) (Water Board, 2005). In addition, groundwater samples collected from temporary groundwater sampling points and groundwater extraction wells are analyzed for VOCs to obtain supplemental data to support these objectives. The complete list of VOC (Method 8260) analytes and quantitation limits (assuming no sample dilution) for each laboratory utilized during the current reporting period is provided in Table 1.

Samples from selected monitoring wells and temporary groundwater sampling points are also analyzed for hydrochemical parameters indicative of the potential for biodegradation. The purpose of this sampling is to provide the data necessary to assess the effectiveness of MNA and/or enhanced bioremediation in achieving the required MCSs.

In addition to collecting groundwater samples from monitoring wells, temporary sampling points and extraction wells; groundwater samples are also periodically collected from slope stability wells and hydraugers. Slope stability wells and hydraugers were not installed for groundwater monitoring purposes, therefore the results from these installations are not considered valid for quantitative determination of groundwater concentrations, although they do

provide qualitative data useful for assessing plume geometry. The locations of slope stability wells are shown on Figure 4. The locations of groundwater monitoring wells, temporary groundwater sampling points, groundwater extraction wells, and hydraugers are shown on Figure 5 and Figures 6a through 6i.

Selected groundwater samples are also analyzed for metals, polychlorinated biphenyls (PCBs), total petroleum hydrocarbons (TPH), and tritium to obtain supplemental information on groundwater quality. Samples for metals and tritium analysis are collected in accordance with the schedule approved by the Water Board (LBNL, 2005b). Radionuclides, including tritium, are not regulated under RCRA and are therefore not included in the RCRA CAP; however, tritium data have been included in the quarterly reports in order to provide a comprehensive evaluation of the status of site contaminants.

A listing of analytical methods used for groundwater sampling at each of the sampling locations during the current reporting period is presented in Table 2. Groundwater elevation data are presented in Table 3. Groundwater monitoring well construction details are presented in Table 4. Groundwater analytical results for each of the site areas and types of sampling locations are provided in the tables listed in the following index:

#### Index of Table Numbering for Groundwater Analytical Results

Chemical	Area	Groundwater Monitoring Wells	Temporary Groundwater Sampling Points	Groundwater Extraction or Injection Wells	Other Locations	Hydraugers
Volatile Organic Compounds (VOCs) <sup>(a)</sup>	Bevalac	5-1 and 10	5-2	5-3	—	9
	Old Town	6-1	6-2 and 10	6-3	6-4	—
	Support Services	7-1	7-2	—	—	—
	Outlying	8	—	—	—	—
Tritium <sup>(b)</sup>	Sitewide	12	12	—	—	—
Total Petroleum Hydrocarbons (TPH) <sup>(a)</sup>	Support Services	—	—	—	13	—
Hydrochemical Indicator Parameters <sup>(a)</sup>	Sitewide	16	16	—	—	—

(a) Includes results only for current reporting period.

(b) Includes results for four quarters.

Each of the tables listing VOC concentrations is subdivided into halogenated non-aromatic compounds, which are primarily derived from solvents, and nonhalogenated or aromatic compounds, which are primarily derived from petroleum products. In order to simplify the reporting tables, the VOC result tables only list the principal VOCs detected at the site; VOCs that have only been detected to a limited extent are listed in Table 10.

#### Monitoring the Implemented Corrective Measures (Halogenated Volatile Organic Compounds)

##### *Corrective Measures Requirements*

The Corrective Measures Study Report (LBNL, 2005a) recommended that corrective measures be implemented in seven areas of solvent-contaminated groundwater. These seven areas are listed in the following table, which also lists the corresponding figure numbers for the groundwater elevation maps and isoconcentration contour maps of total halogenated hydrocarbons in groundwater for the current reporting period. The locations of the seven areas are shown on Figure 7.

**LBNL Groundwater Monitoring — Figure Index  
Locations Where Corrective Measures are Required**

Plume or Area of Groundwater Contamination	Figure Number	
	Isoconcentration Contour Map Total Halogenated Hydrocarbons	Water Level Elevation Map
<i>Bevalac Area</i>		11
Building 71 Groundwater Solvent Plume Building 71B Lobe	8	—
Building 51/64 Groundwater Solvent Plume	8, 9	—
Building 51L Groundwater Solvent Plume	8, 10	—
<i>Old Town Area</i>		14
Old Town Groundwater Solvent Plume Building 7 Lobe	12, 13	—
Old Town Groundwater Solvent Plume Building 52 Lobe	12	—
Old Town Groundwater Solvent Plume Building 25A Lobe	12	—
<i>Support Services Area</i>		16
Building 69A Area of Groundwater Contamination	15	—

The primary objective of the corrective measures for these seven areas is to reduce contaminant concentrations below either risk-based or regulatory-based MCSs, as applicable. Regulatory-based MCSs (i.e. Maximum Contaminant Levels [MCLs] for drinking water) are applicable to the areas where groundwater characteristics (i.e. yields) meet State Water Resources Control Board (SWRCB) criteria for potential sources of drinking water, as defined by SWRCB Resolution 88-63. For the areas, that do not constitute potential sources of drinking water, less stringent risk-based MCSs are applicable. The overall long-term goal for all groundwater at LBNL is to reduce contaminant concentrations to MCLs for drinking water, if practicable. However, it should be noted that groundwater at LBNL is not used for domestic, irrigation, or industrial purposes and drinking water is supplied by the East Bay Municipal Utility District (EBMUD).

Two sets of risk-based MCSs were developed: 1) target risk-based MCSs and 2) upper-limit risk-based MCSs. The target risk-based MCSs were based on theoretical Incremental Lifetime Cancer Risks (ILCRs) of  $10^{-6}$  (the lower bound of the United States Environmental Protection Agency [EPA] risk management range) and a non-cancer Hazard Quotient (HQ) of 1.0. Since the target risk-based MCSs may not be achievable at some groundwater units due to technical impracticability, upper-limit risk-based MCSs were also developed that represent the upper bound of the risk management range (i.e. a theoretical ILCR of  $10^{-4}$ ).

In addition to monitoring groundwater at the seven units listed above, LBNL monitors groundwater in three other areas where solvent-contaminated groundwater is present. Corrective measures are not required in these areas because concentrations of VOCs in groundwater are below applicable cleanup levels (risk-based MCSs), and regulatory-based MCSs do not apply because the areas do not constitute potential sources of drinking water (SWRCB Resolution 88-63). However, LBNL is required to monitor groundwater in these areas because VOC concentrations exceed the long-term cleanup goals (MCLs) for all site groundwater. Groundwater monitoring in these three areas is conducted in accordance with the schedule approved by the Water Board (LBNL, 2005b). The following table lists the figure numbers for the isoconcentration contour map of total halogenated hydrocarbons and groundwater elevation maps of these areas.

**LBNL Groundwater Monitoring — Figure Index**  
**Locations Where Corrective Measures are not Required**

Plume or Area of Groundwater Contamination	Figure Number	
	Isoconcentration Contour Map Total Halogenated Hydrocarbons	Water Level Elevation Map
<i>Support Services Area</i>		16
Building 76 Groundwater Solvent Plume	15	
Building 75/75A Area of Groundwater Contamination	15	
Building 77 Area of Groundwater Contamination*	15	

\* Concentrations of VOCs have been below MCLs during most monitoring events since 2002.

### Corrective Measures Effectiveness

The monitoring data continue to indicate that: 1) the implemented corrective measures have been effective in reducing contaminant concentrations in the groundwater; 2) the groundwater plumes are stable or attenuating; and, 3) contaminants are not migrating offsite in the groundwater. To illustrate the effectiveness of the groundwater cleanup measures, comparisons of groundwater plume VOC concentrations between the current reporting period and 1999 are provided on Figure 17, Figure 18, and Figure 19, which show the areal extent of total halogenated VOC concentrations exceeding 10 µg/L, 100 µg/L, and 1,000 µg/L, respectively. These comparisons indicate that significant reductions in concentrations of halogenated VOCs in groundwater have occurred since 1999. The reductions are the result of both Interim Corrective Measures (ICMs) implemented during the RFI, and the subsequently implemented approved corrective measures.

Concentrations of all VOCs that exceeded MCLs for drinking water during the current reporting period, and the specific sampling locations where MCLs were exceeded, are tabulated in Table 11. The maximum concentrations of halogenated VOCs detected above MCLs in each of the 10 areas of solvent-contaminated groundwater discussed above are listed in the following table. The extent of groundwater contamination in areas where concentrations of halogenated VOCs exceeded MCLs during the current reporting period is shown on Figure 20.

**Maximum Concentrations (µg/L) of Halogenated VOCs Detected Above MCLs  
during the Second Quarter of FY08**

Area	Groundwater Unit	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	vinyl chloride	carbon tet	1,1,2,2-PCA
	MCL	5	0.5	6	6	10	5	5	0.5	0.5	
Bevalac	Building 71B Lobe				132		30	52	36		
	Building 51/64 Plume	2,170	17	367	126	18	194	468	141		3
	Building 51L Plume	7.4			78	11	8.0	335	1.6	15	
Old Town	Old Town Plume										
	Building 7 Lobe	11	1.1	36	119		6,480	4,840	2.8	338	
	Building 25A Lobe			25	17			218	1.1		
	Building 52 Lobe									1.2	
Support Services	Building 69A Area				9.1				5.5		
	Building 75/75A Area				75			11			
	Building 76 Area*							18			
	Building 77 Area*				6.4						

DCA: dichloroethane

TCE: trichloroethene

PCE: tetrachloroethene

carbon tet: carbon tetrachloride

DCE: dichloroethene

PCA: tetrachloroethane

Seventeen wells monitor for potential migration of contaminated groundwater beyond the site boundary or the developed areas of the site (Figure 21). Except for MWP-7, in which trichloroethylene (TCE) was detected at a concentration of 1.3 µg/L (MCL = 5 µg/L), no VOCs were detected in any of the perimeter wells during the current reporting period. Concentrations of halogenated hydrocarbons detected in MWP-7 have been below MCLs since May 2000.

#### Monitoring Other Chemicals in the Groundwater

##### *Aromatic or Non-Halogenated Hydrocarbons*

Wells in which aromatic or non-halogenated hydrocarbons were detected during the current reporting period are listed in the following table. Except for benzene in wells MW51-96-16 and SB69A-99-1, concentrations of aromatic or non-halogenated hydrocarbons detected did not exceed MCLs for drinking water. Results were consistent with previously measured concentrations.



**Aromatic or Non-Halogenated Hydrocarbons Detected in Groundwater  
During the First Quarter of FY08**

<b>Chemical</b>	<b>MCL (µg/L)</b>	<b>Well Number</b>	<b>Maximum Concentration (µg/L)</b>
benzene	1	SB69A-99-1	1.1
		MW51-96-16	2.2
toluene	150	SB64-02-1	3.7
		SB64-02-2	1.6
		SB69A-00-1	2.2

*Tritium*

The Building 75 Tritium Plume extends from the Corporation Yard (the area between Buildings 69 and 75) southwards towards Chicken Creek (Figure 22). The source of the plume was the former National Tritium Labeling Facility (NTLF), which operated inside Building 75 for almost 20 years until December 2001. Tritium has also been detected in a localized area near Building 71B, although concentrations in that area have been substantially less than those detected in the Building 75 area. The tritium in the groundwater near Building 71B was likely derived from surface runoff from the hillside northeast of Building 71.

Concentrations of tritium detected in groundwater in 2007 are listed in Table 12. An isoconcentration map of the Building 75 area showing the distribution of tritium in groundwater for the current reporting period is shown on Figure 22. Tritium concentrations have shown significant declines in almost all wells monitoring the plume since closure of the NTLF in December 2001, with a concurrent reduction in the lateral extent of the plume. Concentrations of tritium have been below the MCL for drinking water (<20,000 pCi/L) in all wells since February 2005, with a maximum detected concentration of 15,600 pCi/L during the current reporting period.

The concentration of tritium in the groundwater near Building 71 has generally been below the reporting limit of 300 pCi/L since closure of the NTLF. Tritium was detected at a concentration of 387 pCi/L in MW71-95-9 during the current reporting period.

## *Petroleum Hydrocarbons*

Groundwater samples were collected from two wells (W76-97-3 and W76-97-4) at the Building 76 Former Diesel and Gasoline Underground Storage Tank (UST) site and analyzed for TPH in the diesel range (TPH-D). TPH-D (320 µg/L maximum) was detected in both wells (Table 13).

## **2.2 SURFACE WATER SAMPLING**

Surface water samples were collected in February 2008 from seven creeks flowing from LBNL and analyzed for VOCs and metals (Table 14a). Samples from two of the creeks were also analyzed for tritium (Table 14b). Surface water sampling locations are shown on Figure 2. No VOCs or tritium was detected. Barium (110 µg/L maximum) was detected in all seven creeks, zinc (39 µg/L maximum) in four creeks, selenium (4.8 µg/L maximum) and vanadium (11 µg/L maximum) in two creeks each, and arsenic (2.8 µg/L) in one creek. Detected metals concentrations were consistent with previous results and are likely naturally occurring.

## **2.3 OTHER ACTIVITIES**

### Building 17 Former Scrapyard And Drum Storage Area (SWMU 2-3)

Approximately 5 cubic yards of PCB-contaminated soil was excavated from beneath the west side of Building 17 and disposed of offsite, as discussed below.

#### *Prior Remediation Activities*

In 1998 and 1999, approximately 240 cubic yards of PCB-contaminated soil were removed from the Building 17 area during ICMs. The objective of the ICMs was to remove soil with concentrations of PCBs greater than the Toxic Substances Control Act (TSCA) self-implementing cleanup level of 1 mg/kg for PCBs in soil in high-occupancy areas. This level is considered appropriate for unrestricted land use (including residential). Except for one confirmatory sample collected beneath the southwest end of Building 17, residual concentrations of PCBs were less than the 1 mg/kg ICM cleanup level.

In June 2007, seven shallow soil samples were collected from four borings drilled through the building foundation to determine the extent of excavation that would be required to achieve the TSCA level, and make the unit acceptable for unrestricted land use. No PCBs were detected. Based on these results, an approximately 4-foot long by 4-foot wide section of the concrete floor was removed from the area where the TSCA level had been exceeded and the underlying soil was excavated to a depth of 4 feet. On December 4, 2007, soil samples were collected from the walls and from the floor of the excavation. The TSCA level was exceeded only in one floor sample collected from the western side of the excavation (the side closest to the building wall), indicating that additional excavation was required.

#### *Remediation Activities During Current Reporting Period*

To determine the depth of additional excavation that would be required, soil samples were collected on January 4, 2008 at depths of 5 and 6 feet below the floor surface from three borings (SS17-08-F5 through SS-17-08-F7) drilled on 1-foot centers on the west side of the excavation. PCBs (2.8 mg/kg) were detected in the 5-foot depth sample collected from SS-17-07-F5. PCBs were not detected in any of the other samples, including the sample collected at 6 feet at the same location. Based on these results, the western side of the excavation was deepened to 6 feet, and on January 29, 2008 confirmation samples (SS-17-08-W9 through SS-17-08-W12) were collected at a depth of 5 feet from each wall and one (SS-17-08-F8) from the floor of the additional excavation area. PCBs (3.6 mg/kg) were only detected in the wall sample collected from the western side of the excavation (SS-17-08-W9). On February 25, 2008 the 6-foot deep western side of the excavation was extended outside the building to the backfill of the 1998/1999 excavation area. This action resulted in the excavation of all remaining soil with concentrations of PCBs greater than the TSCA cleanup level (1 mg/kg). A total of approximately 5 cubic yards of soil was excavated and disposed of offsite. The excavation was backfilled with low-strength concrete.

Concentrations of PCBs detected during the current reporting period are listed in Table 15. The location of the excavation and soil sampling locations and results are shown on Figure 23.

## Environmental Investigation at the Former Building 10 Site

The six temporary groundwater sampling points installed at the former Building 10 construction site were properly destroyed. SB10-07-2 and SB10-07-3 were destroyed on January 28, 2008, SB10-07-4, SB10-07-5, and SB10-07-6 on February 28, 2008, and SB10-07-1 on February 29, 2008. The sampling points were overdrilled with 8 inch-diameter hollow-stem augers to the total completion depth, and well construction materials were removed from the boreholes. The boreholes were then grouted through the augers with a slurry of neat Portland cement and potable water.

### **2.4 DOCUMENTS**

The following documents were submitted to the regulatory agencies during the current reporting period:

- On February 29, 2008, LBNL submitted the Quarterly Progress Report and Annual Status Summary for the Fourth Quarter of FY07 to the DTSC.
- On March 27 2008 LBNL submitted the semi-annual Self-Monitoring Report for treated water discharged to the sanitary sewer to EBMUD.

## SECTION 3

### STATUS OF CORRECTIVE MEASURES

#### 3.1 SUMMARY OF CORRECTIVE MEASURES

A listing of the ongoing corrective measures that have been implemented for groundwater is provided in the following table. More detailed information on the implementation of the measures is provided in the RCRA Corrective Measures Implementation (CMI) Report (LBNL, 2007). In addition to the DTSC-required corrective measures listed in the table, operation of the Building 6 dual-phase (groundwater and soil vapor) extraction system continued during the current reporting period. The Building 6 system was installed to extract petroleum hydrocarbons from the soil and groundwater at the Building 7E Former Underground Storage Tank (UST) site. Petroleum hydrocarbons were last detected in the groundwater at the site in August 2006.

##### Monitored Natural Attenuation (MNA) and Enhanced Bioremediation

MNA is a component of the approved corrective measures at the following three groundwater units:

1. Downgradient core area of the Building 51/64 Groundwater Solvent Plume
2. Peripheral area of the Building 7 Lobe of the Old Town Groundwater Solvent Plume
3. Building 69A Area of Groundwater Contamination.

HRC has been injected into the groundwater at two of these units (Building 51/64 and Building 69) and in the Building 71B plume source area to enhance natural biodegradation processes. Injection of HRC was temporarily halted at all three units on November 2, 2007 to assess changes in trends in VOC concentrations in the absence of HRC injection. Injection in the Building 71B source area was resumed on February 1, 2008.

## Summary of DTSC Approved Corrective Measures for Groundwater

Groundwater Unit	Ongoing Corrective Measure
Building 71B Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• In situ soil flushing/HRC injection in the source area.</li> <li>• Capture and treatment of contaminated Building 51 area hydrauger effluent.</li> </ul>
Building 51/64 Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• In situ soil flushing in the source area.</li> <li>• MNA for contaminants in the downgradient plume area.</li> <li>• HRC injection in the upgradient core area.</li> <li>• Extraction and treatment of contaminated water from the Building 51 subfloor drainage system.</li> <li>• Extraction of groundwater from EW51-07-1 and EW51-07-2 to control migration of contaminated groundwater southward under Building 51.<sup>(a)</sup></li> <li>• Extraction of groundwater from EW51B-07-1 and EW51B-07-2 to control potential downgradient migration.<sup>(a)</sup></li> </ul>
Building 51L Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• Extraction and treatment of groundwater from EW51L-06-1 and EW51A-06-1.</li> <li>• Extraction and treatment of water from the concrete sump installed inside Building 51A.</li> </ul>
Building 7 Lobe Old Town Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• In situ soil flushing in the source area (Building 7 Groundwater Collection Trench) downgradient from the former Building 7 sump location.</li> <li>• In situ soil flushing in the core area downgradient from the Building 7 Groundwater Collection Trench.</li> <li>• Operation of the Building 58 West and Building 58 Southeast Groundwater Collection Trenches and groundwater extraction well EW58-07-1<sup>(a)</sup> to control plume migration.</li> <li>• Dual-phase (groundwater and soil vapor) extraction on the Building 53/58 slope.</li> <li>• Extraction and treatment of water from a concrete sump (SB58-98-4).</li> <li>• MNA for contaminants in the peripheral plume areas.</li> </ul>
Building 52 Lobe Old Town Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• In situ soil flushing (injection and extraction wells) in the source area.</li> <li>• Collection and treatment of groundwater from the Building 46 subdrain at the downgradient lobe margin.</li> </ul>
Building 25A Lobe Old Town Groundwater Solvent Plume	<ul style="list-style-type: none"> <li>• In situ soil flushing (infiltration bed and extraction trench) west of Building 25A in the source area.</li> <li>• In situ soil flushing south of Building 25.</li> <li>• Extraction and treatment of water from electrical utility manhole EMH-133.</li> </ul>
Building 69 Area	<ul style="list-style-type: none"> <li>• Enhanced bioremediation (MNA with HRC injection) in the source area.</li> </ul>

(a) These actions were implemented to enhance the approved corrective measures subsequent to approval of the CMI Report.

To help assess the effectiveness of MNA/enhanced bioremediation in achieving the required MCSs, VOC concentrations and hydrochemical parameters indicative of the potential for biodegradation are being monitored (Table 16). The hydrochemical parameters include seven field-measured parameters (dissolved oxygen [DO], dissolved carbon dioxide ( $\text{CO}_2$ ), pH, temperature, ferrous iron ( $\text{Fe}^{2+}$ ), sulfide ( $\text{H}_2\text{S}$ ), and conductivity) and the following laboratory-measured parameters: nitrate ( $\text{NO}_3^-$ ), nitrite ( $\text{NO}_2^-$ ), sulfate ( $\text{SO}_4^{2-}$ ), volatile fatty acids (VFAs), and methane ( $\text{CH}_4$ )/ethane ( $\text{C}_2\text{H}_6$ )/ethene ( $\text{C}_2\text{H}_4$ ).

In general, the analytical parameters indicate conditions favorable for biodegradation in most of the monitored wells. In particular, the relatively high concentrations of methane, the presence of ethene, and the low levels of DO in MW51-96-16 and MW51-96-17 is evidence of the reductive dechlorination of halogenated VOCs in the Building 51/64 plume HRC injection area. Concentrations of VOCs have substantially declined in MW51-96-17, with all concentrations of VOCs in the well currently below MCLs for drinking water.

### **3.2 GROUNDWATER TREATMENT SYSTEMS**

Extracted groundwater and contaminated effluent from drain lines and hydraugers is treated to non-detectable levels of VOCs at granular activated carbon (GAC) treatment systems. Most of the treated water is injected into the subsurface for soil flushing purposes. The remainder, which is not needed for flushing, is discharged to the sanitary sewer in accordance with the provisions of LBNL's Wastewater Discharge Permit issued by EBMUD. The following table summarizes the volumes of water treated at each GAC treatment system and the disposition of the treated water.

### Summary of Treatment Systems

Treatment System	Volume Treated Second Quarter FY08 (gallons)	Total Volume Treated to Date (gallons)	Discharge/Reuse
Building 6 Bioventing	244,534	3,916,193	Soil flushing
Building 7 Trench	1,000,483	15,761,322	Recirculated or sanitary sewer
Building 25	127,491	826,542	Recirculated
Building 25A	153,580	2,387,717	Recirculated
Building 37*	0	1,818,711	
Building 46	848,061	21,813,751	Recirculated or sanitary sewer
Building 51 Firetrail	733,283	12,472,236	Sanitary sewer or soil flushing
Building 51 Hydraugers**	0	9,482,665	
Building 51 MGR Basement	247,029	4,824,524	Sanitary sewer
Building 51L	136,024	1,458,698	Sanitary sewer
Building 53	250,263	5,360,067	Recirculated
Building 64	180,806	2,646,247	Recirculated
Building 71B	24,999	374,242	Recirculated
<b>Total Volume Treated</b>	<b>3,946,553</b>	<b>83,142,915</b>	

\* System was dismantled in June 2006.

\*\* System no longer operational. Hydrauger effluent is now treated at Building 51 Firetrail Treatment System.



## **SECTION 4**

### **SUMMARY OF PROBLEMS ENCOUNTERED**

#### **4.1 DEFINITIONS**

Problems are defined herein as follows:

1. Quality Assurance and Quality Control (QA/QC) problems that would result in failure to meet data quality objectives.
2. Findings that indicate the presence of contamination that could impact human health or the environment, and for which activities are not specified in existing workplans to either further evaluate or remediate the contamination.

#### **4.2 QUALITY ASSURANCE / QUALITY CONTROL**

No QA/QC issues were identified that would result in a failure to meet data quality objectives.

##### Field Quality Control

Fifteen groundwater field (equipment/rinse) blanks and thirteen groundwater trip blanks were collected and analyzed for VOCs during the current reporting period (Table 17). In addition, three field blanks were analyzed for tritium (Table 12). No analytes were detected in the blanks.

Six duplicate groundwater samples were collected and analyzed for VOCs during the current reporting period. The duplicate samples were analyzed by BC Laboratories (BC) and the LBNL Environmental Measurement Laboratory (EML). Results of the duplicate samples were consistent.

## Laboratory Quality Control

All laboratories utilized by the LBNL ERP for determining contaminant concentrations in environmental samples are certified by the California Department of Health Services (DHS) under the California Environmental Laboratory Accreditation Program. Laboratory quality control procedures include the analysis of method blanks and spike samples in accordance with protocols established for specific EPA analytical methods.

Soil and water samples collected during the current reporting period were analyzed by the LBNL Environmental Measurement Laboratory (EML), Eberline, BC Laboratories (BC), or Microseeps, as indicated in the following table:

### **Analytical Laboratories**

<b>Analytical Method</b>	<b>Groundwater</b>	<b>Soil</b>
Volatile Organic Compounds (EPA 8260)	EML/BC	
Total Petroleum Hydrocarbons -Diesel (EPA Mod. 8015)	BC	BC
Polychlorinated Biphenyls (EPA 8082)		BC
Tritium (EPA 906)	Eberline	
Anions	BC	
Volatile Fatty Acids (VFA) (AM23G) Light Hydrocarbon gasses (LHG) (Methane, Ethane, Ethene) (AM20GAX)	Microseeps	

Laboratory QA/QC problems identified in the laboratory data packages are noted in the following table. The data validation review indicated that the identified laboratory QA/QC problems were not sufficient to invalidate any data.

### **Analytical Laboratory Deficiencies**

<b>Lab</b>	<b>Chain of Custody</b>	<b>Matrix</b>	<b>Deficiency</b>
BC	5569	Water	The sample holding time was exceeded for NO <sup>3</sup> .

## SECTION 5

### ACTIVITIES FOR UPCOMING REPORTING PERIODS

#### 5.1 THIRD QUARTER FY08

This section describes the activities that were completed during the third quarter of FY08 (April 1 through June 30, 2008), the upcoming reporting period. Results of these activities will be reported in the next Quarterly Progress Report, scheduled for submittal to DTSC in November 2008.

##### Groundwater Monitoring

The number of groundwater samples submitted for each type of analysis during the third quarter of FY08 is shown in the following table:

**Number of Groundwater Samples Collected During the Third Quarter of FY 2008**

	VOCs	Tritium	Total
Monitoring Wells Primary Samples	98	1	99
Temporary Sampling Points	94		94
Extraction/Injection Wells	69		69
Duplicate Samples	2		2
Trip Blanks	10		10
Rinse Blanks	11		11

VOCs: Volatile Organic Compounds

##### Documents

The following documents were submitted to the regulatory agencies:

- On May 27, 2008, LBNL submitted the Quarterly Progress Report for the First Quarter of FY08 to the DTSC, in compliance with LBNL's RCRA Part B Permit.

### Corrective Measures for Groundwater

The corrective measures for groundwater described in Section 3.1 continued through the third quarter of FY08.

### Planned Helios Building Site

Five temporary groundwater sampling points were installed in the planned Helios building construction area to assess potential impacts on construction and building operation from the tritium-contaminated groundwater located to the northwest of the site. The sampling points were developed and sampled for tritium. No tritium was detected.

### Reassessment of the Extent of Tritium Contamination in the Soil

Shallow soil samples were collected at 16 locations to reassess the extent of tritium contamination in the soil. It is likely that the magnitude and extent of tritium contamination have decreased as a result of radioactive decay (tritium half-life = 12.3 years) and other natural attenuation processes such as evapotranspiration from soil surfaces.

## **5.2 FOURTH QUARTER FY08**

In addition to the ongoing activities described in the previous sections of this report, the following is a list of activities planned for the fourth quarter of FY08 (July 1 to September 30, 2008):

- Submit the Quarterly Progress Report for the second quarter of FY08 to the DTSC.
- Hold Remedial Project Manager (RPM) meetings with the regulatory agencies as needed.
- Conduct quarterly groundwater sampling and continue depth-to-water measurements.

## SECTION 6

### REFERENCES

- LBNL, 1992a.** RCRA Facility Assessment at the Lawrence Berkeley Laboratory. Lawrence Berkeley Laboratory Environmental Restoration Program, Lawrence Berkeley Laboratory, Berkeley, California, September 30, 1992.
- LBNL, 1993-2007.** Quarterly Progress Reports, (includes reports covering Second Quarter Fiscal Year 1993 [January 1 to March 31, 1993] through First Quarter Fiscal Year 2007 [April 1 to December 31, 2007] for the LBNL Hazardous Waste Facility Permit. Environmental Restoration Program, Lawrence Berkeley National Laboratory, Berkeley, California, August 1993 through May 2008.
- LBNL, 2000.** RCRA Facility Investigation Report, Environmental Restoration Program, Lawrence Berkeley National Laboratory, Berkeley, California, September 2000.
- LBNL, 2005a.** RCRA Corrective Measures Study Report for the Lawrence Berkeley National Laboratory Environmental Restoration Program. Lawrence Berkeley National Laboratory, Berkeley, California, February 2005.
- LBNL, 2005b.** Proposal for Revised Groundwater Monitoring Schedule for the Lawrence Berkeley National Laboratory Environmental Restoration Program. Lawrence Berkeley National Laboratory, Berkeley, California, May 2005.
- LBNL, 2007.** RCRA Corrective Measures Implementation (CMI) Report for the Lawrence Berkeley National Laboratory Environmental Restoration Program. Lawrence Berkeley National Laboratory, Berkeley, California, January 2007.
- LBNL, 2008.** Quarterly Progress Report and Annual Status Summary, Fourth Quarter Fiscal Year 2007 (July 1 to September 30, 2007) for the Lawrence Berkeley National Laboratory Hazardous Waste Facility Permit, Environmental Restoration Program, Lawrence Berkeley National Laboratory, Berkeley, California, February 2008.
- Water Board, 2005.** Water Board Approval of the Proposal for a Revised Groundwater Monitoring Schedule for Lawrence Berkeley National Laboratory, May 2005, Letter from Michael Rochette (Water Board) to Iraj Javandel (LBNL), File No. 2199.9026 (MBR), August 1, 2005.

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- Figure 4. Slope Stability, Slope Indicator, and Observation Well Locations, Lawrence Berkeley National Laboratory.
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- Figure 20. Extent of Halogenated Hydrocarbons in Groundwater Above MCLs, Second Quarter FY08.
- Figure 21. Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Outlying Areas and Perimeter Monitoring Wells, Second Quarter FY08.
- Figure 22. Tritium Concentrations in Groundwater (pCi/L) in Corporation Yard Area, Second Quarter FY08.
- Figure 23. Residual Concentrations of PCBs in March 2008, Excavation Area West of Building 17 Former Scrapyard and Drum Storage Area (SWMU 2-3).

	Groundwater monitoring well	ND (or <)	Not detected
	Properly destroyed monitoring well	51-01-10	Hydrauger
	Temporary groundwater sampling point		Sanitary sewer line
	Properly destroyed sampling point		Storm drain line
	Groundwater extraction well		Surface creek
	Groundwater injection well		LBNL site boundary
	Dual phase extraction well		Fence
	Slope stability well		Surface structure (e.g. buildings, etc.)
	Observation well		Former building location
	Slope indicator well		Groundwater collection trench
	Vadose zone monitoring well		Granular activated carbon (GAC) treatment system
	Shallow soil sampling location		
	Soil boring		
	Piezometer		
	Spring		
	Topographic contour line (elevation in ft above mean sea level)		

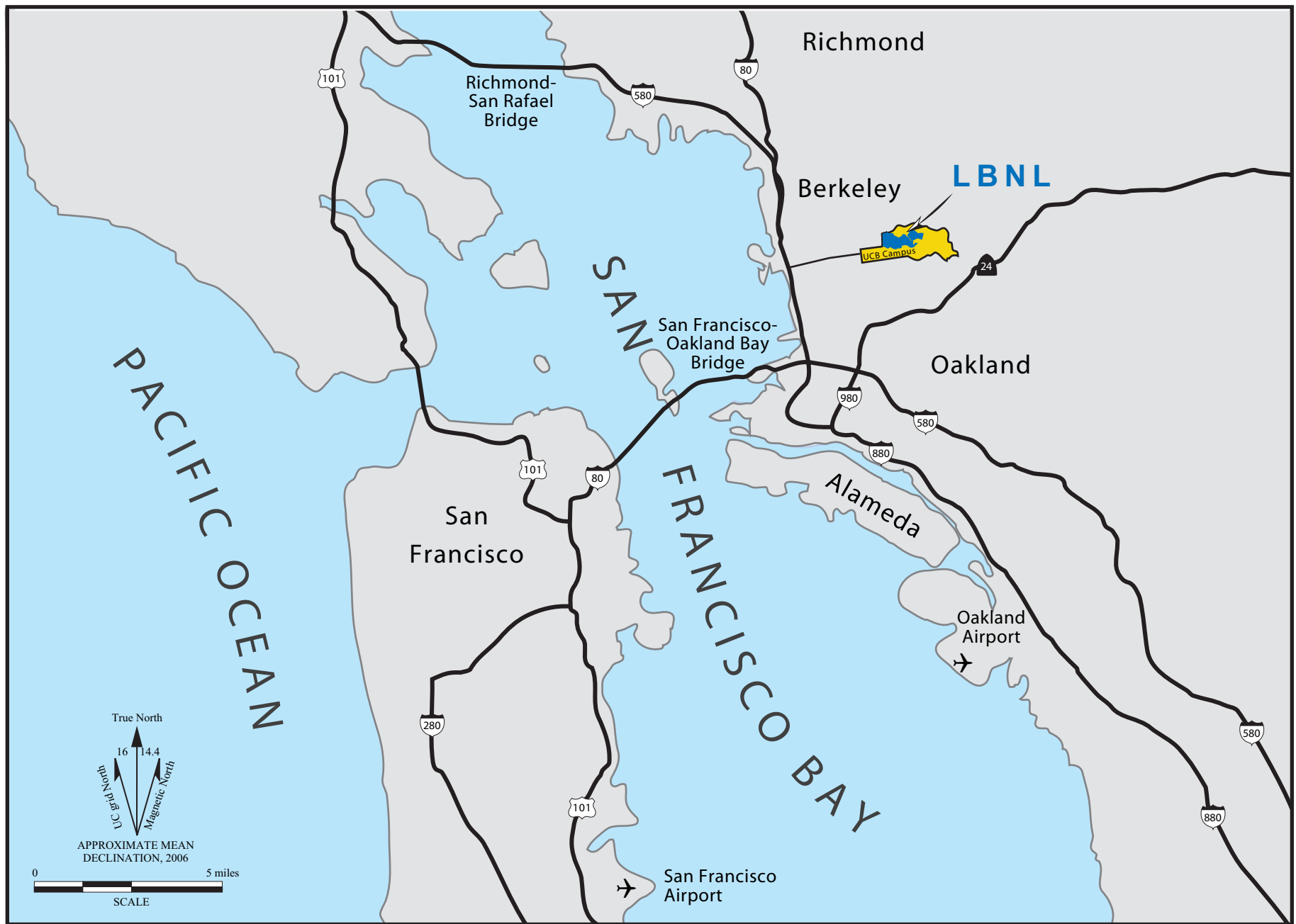
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All other symbols used are explained on the figures.

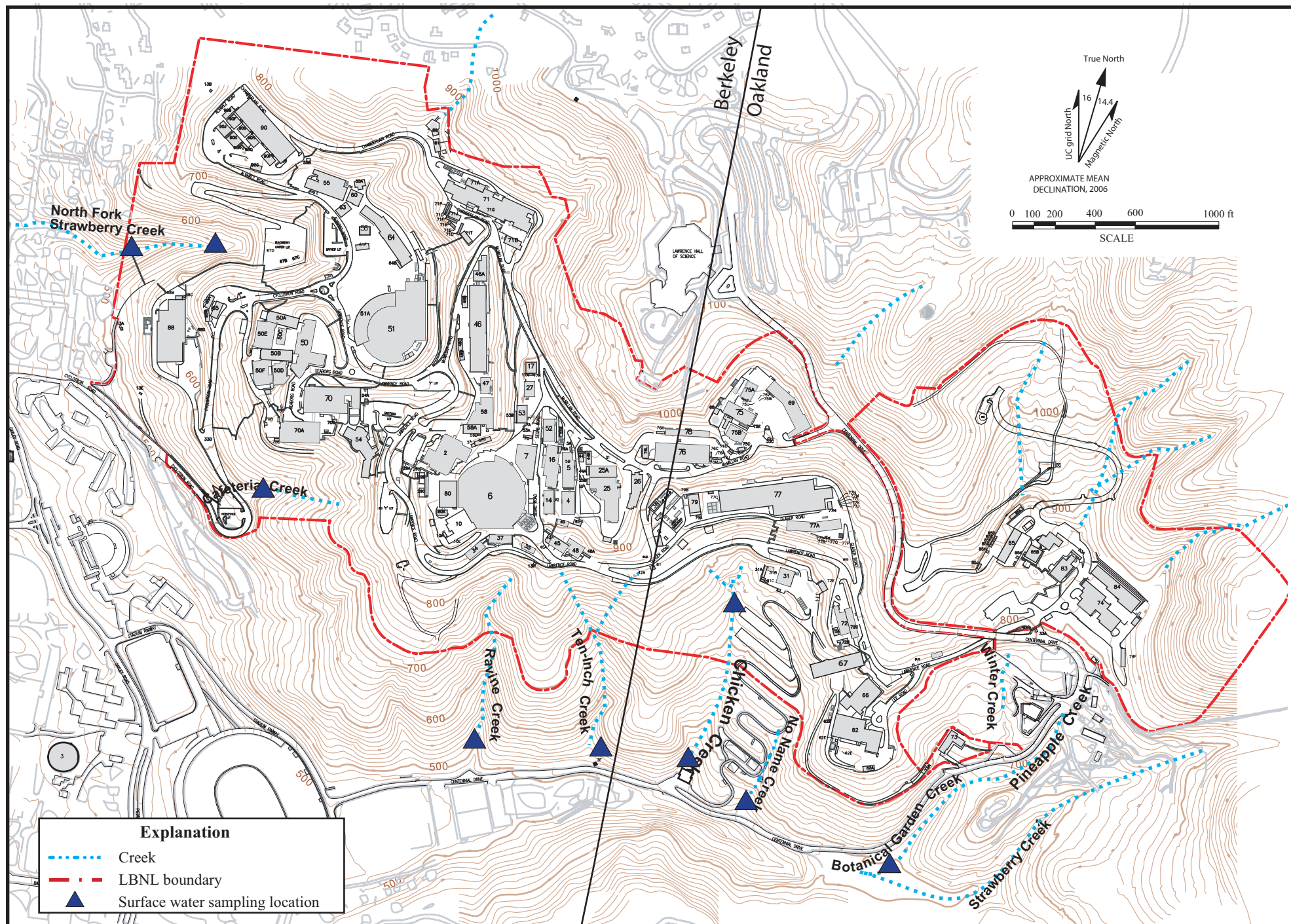
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**Key to Symbols Used on Figures.**





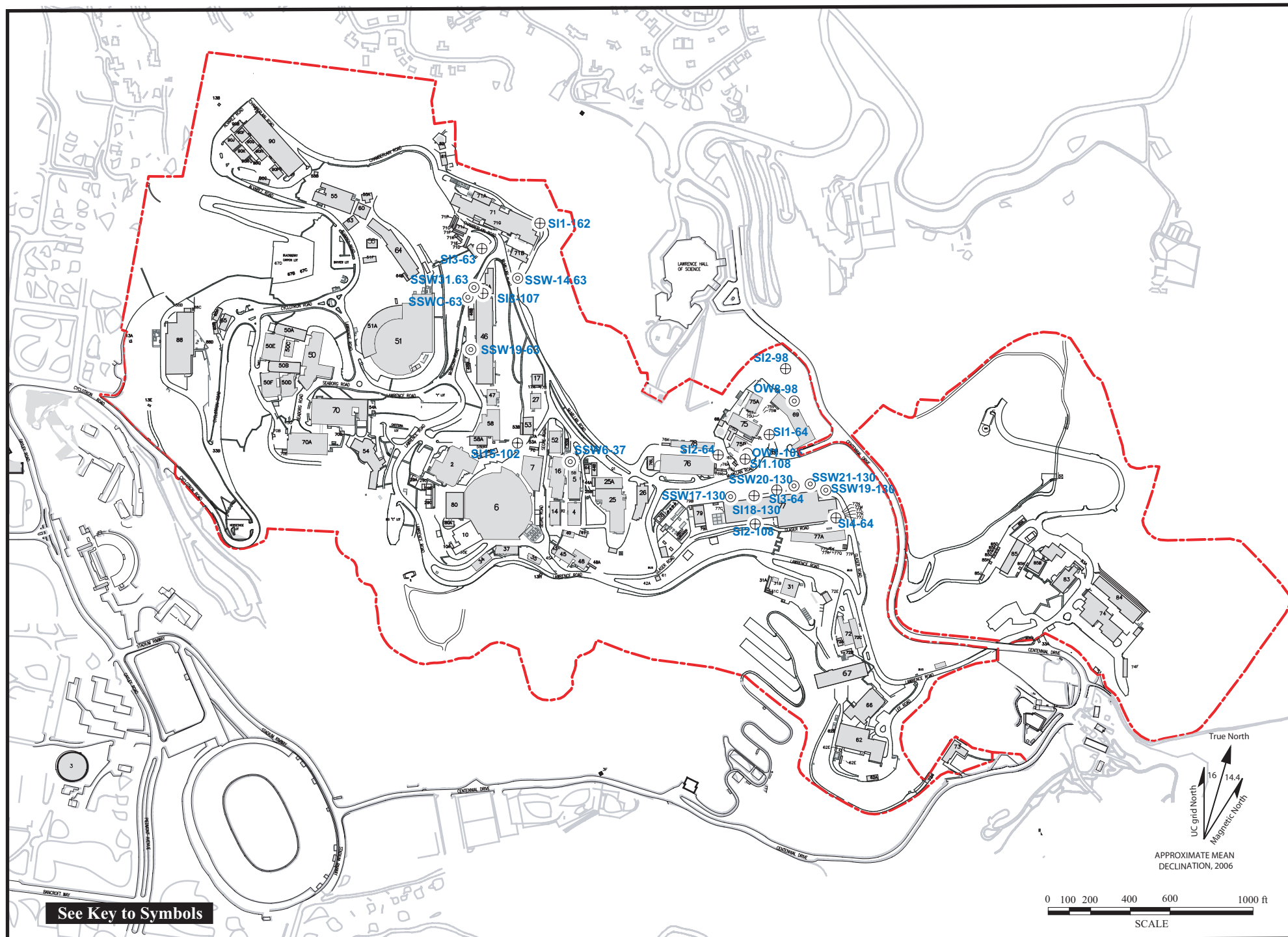
**Figure 1. Regional Setting of the Lawrence Berkeley National Laboratory.**



**Figure 2. Site Map and Topography and Surface Water Sampling Locations, Lawrence Berkeley National Laboratory.**



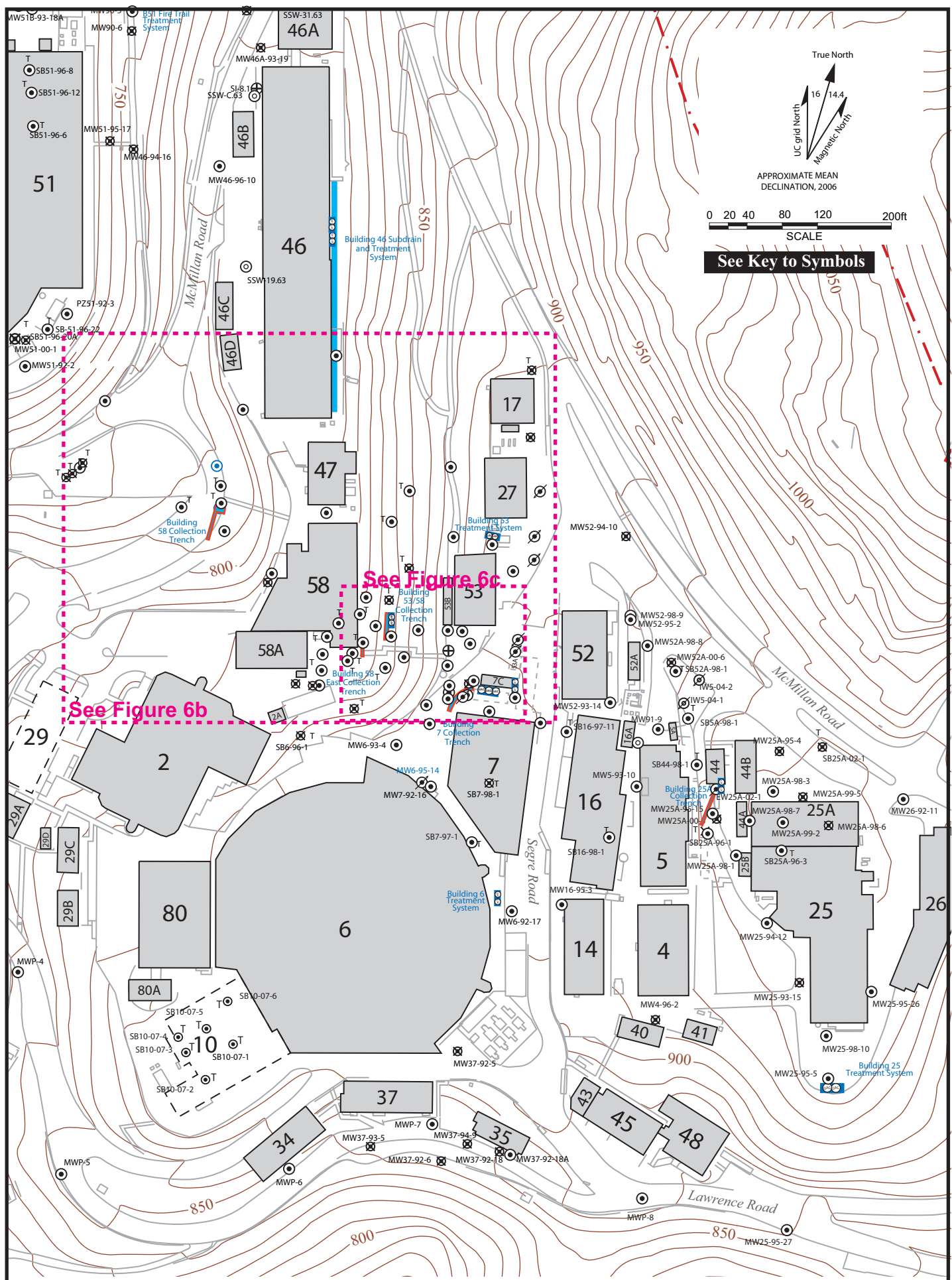




**Figure 4. Slope Stability, Slope Indicator, and Observation Well Locations, Lawrence Berkeley National Laboratory.**







**Figure 6a. Well Location Map of Old Town Area, Lawrence Berkeley National Laboratory.**



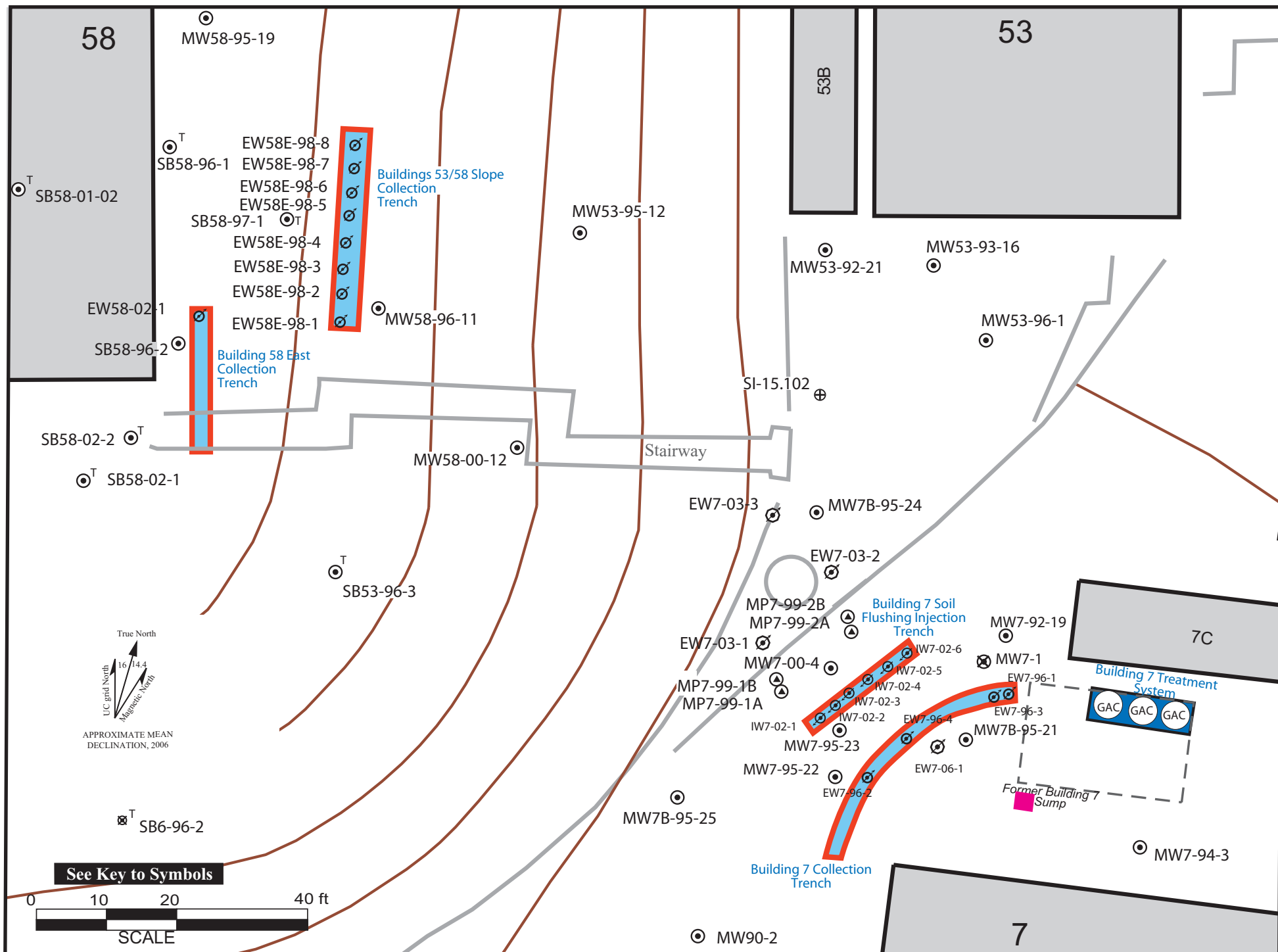
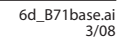
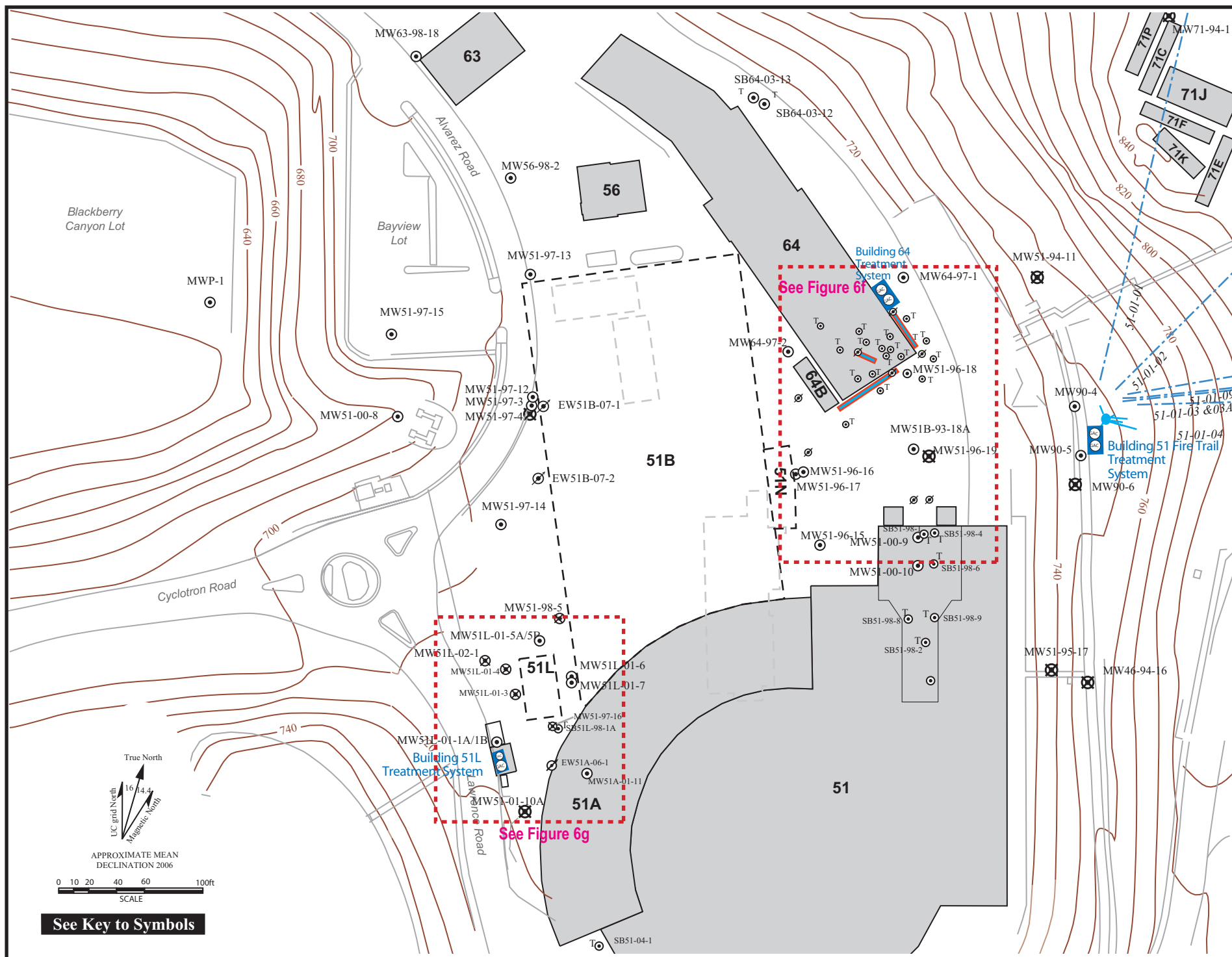


Figure 6c. Well Location Map of the Old Town Plume Source Area, Lawrence Berkeley National Laboratory.

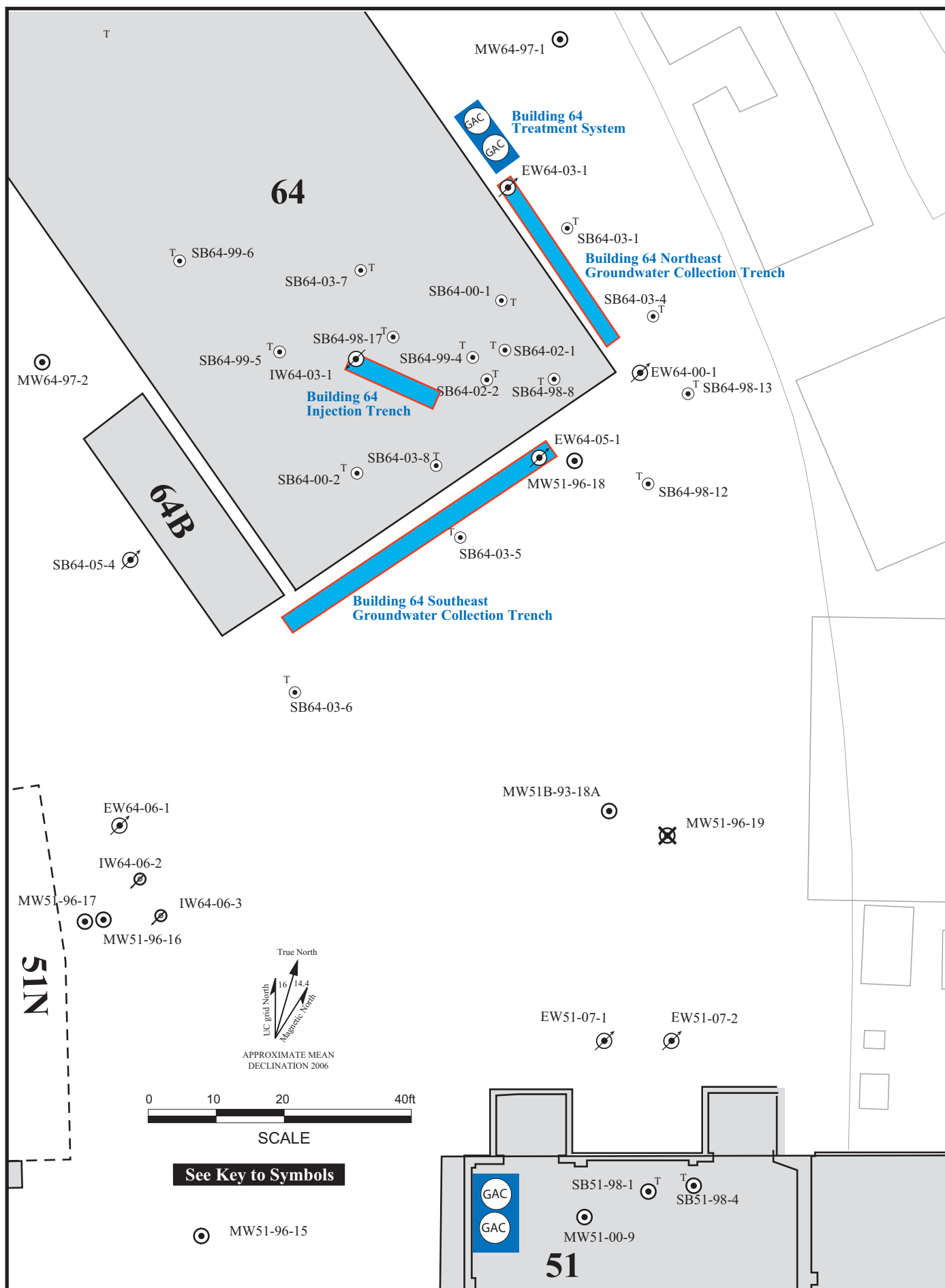




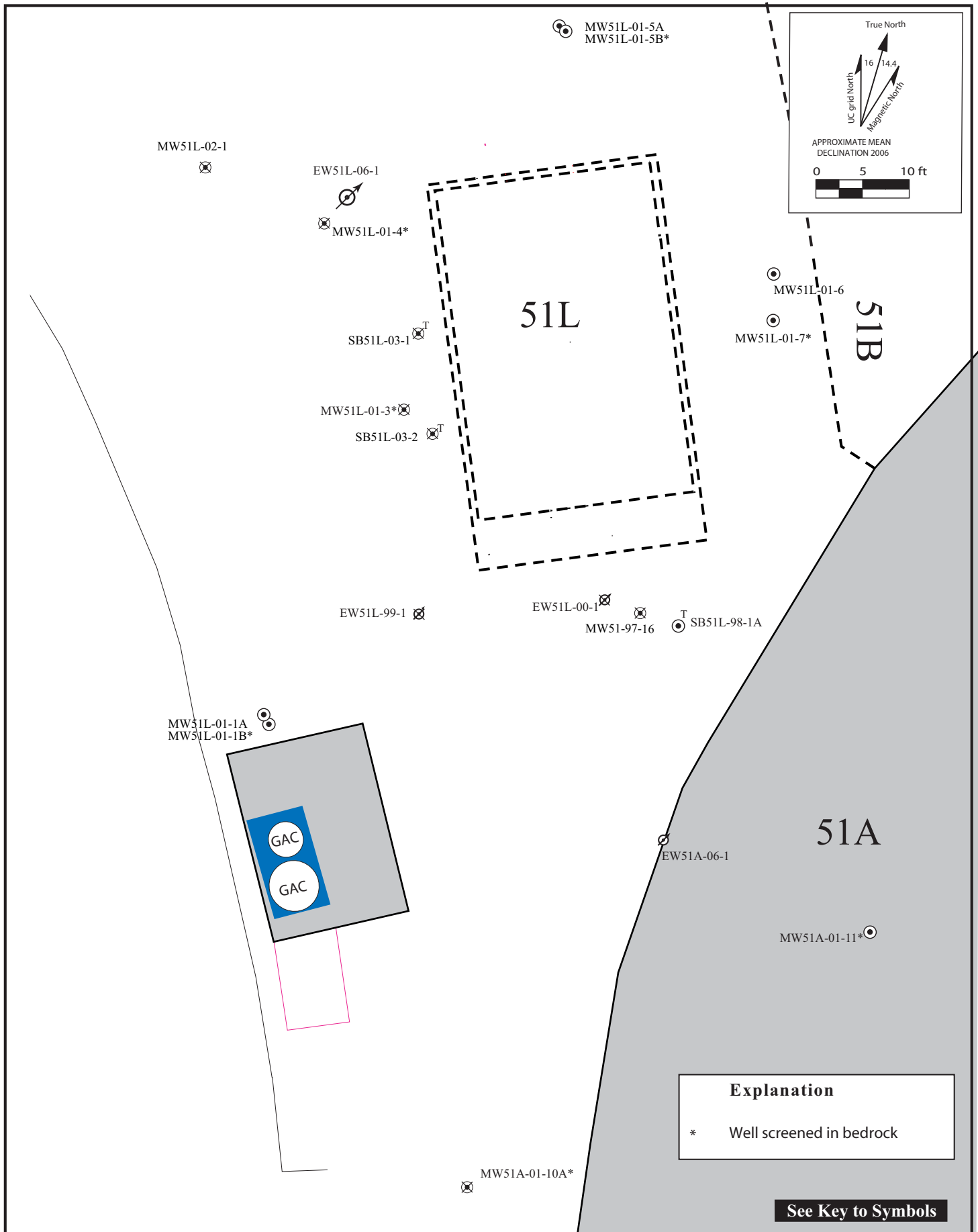
**Figure 6d. Well Location Map of the Building 71 Area, Lawrence Berkeley National Laboratory.**



**Figure 6e. Well Location Map of the Building 51 and Building 64 Areas, Lawrence Berkeley National Laboratory.**



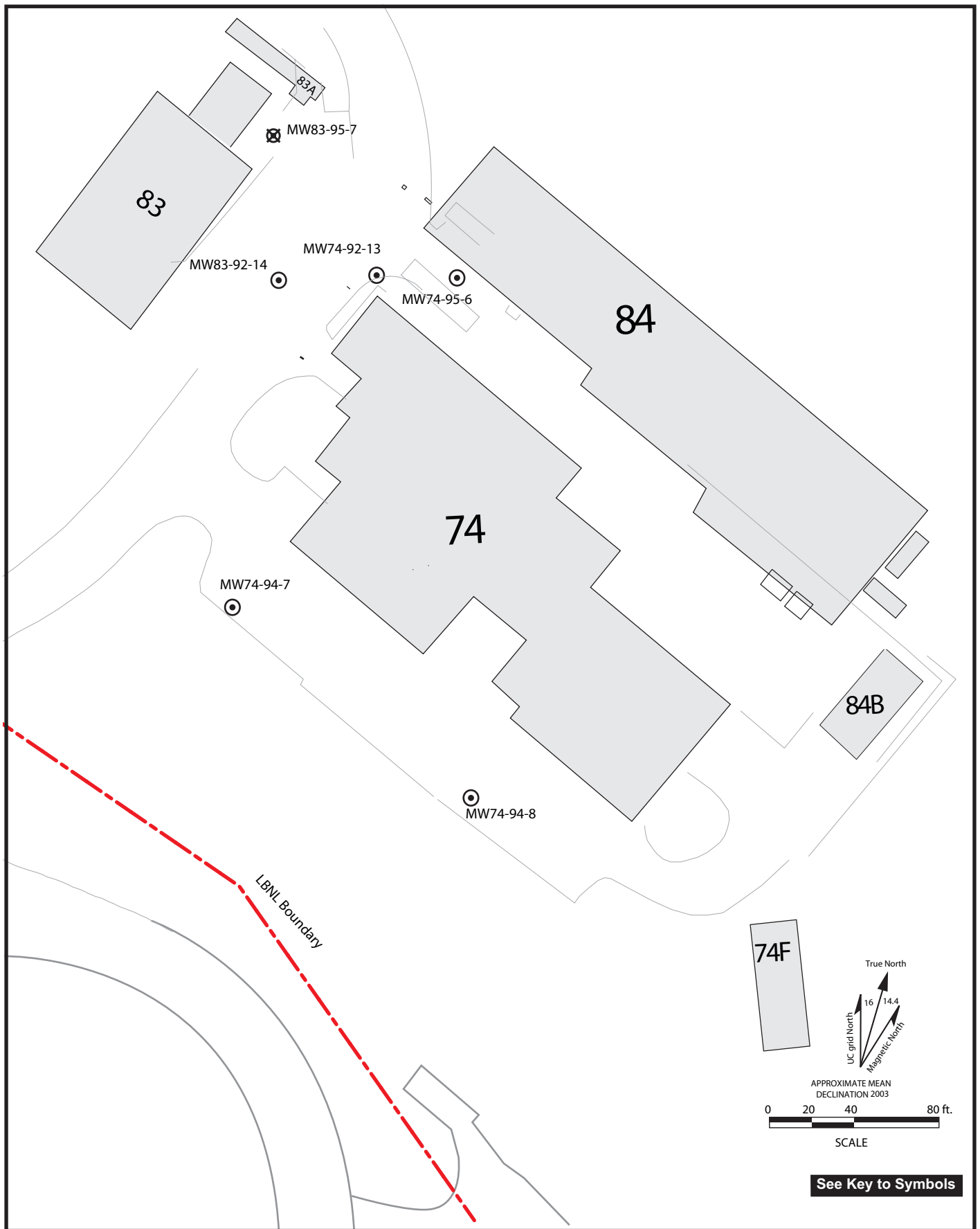
**Figure 6f. Well Location Map of the Building 51/64 Plume Source Area, Lawrence Berkeley National Laboratory.**



**Figure 6g. Well Location Map of the Building 51L Area, Lawrence Berkeley National Laboratory.**

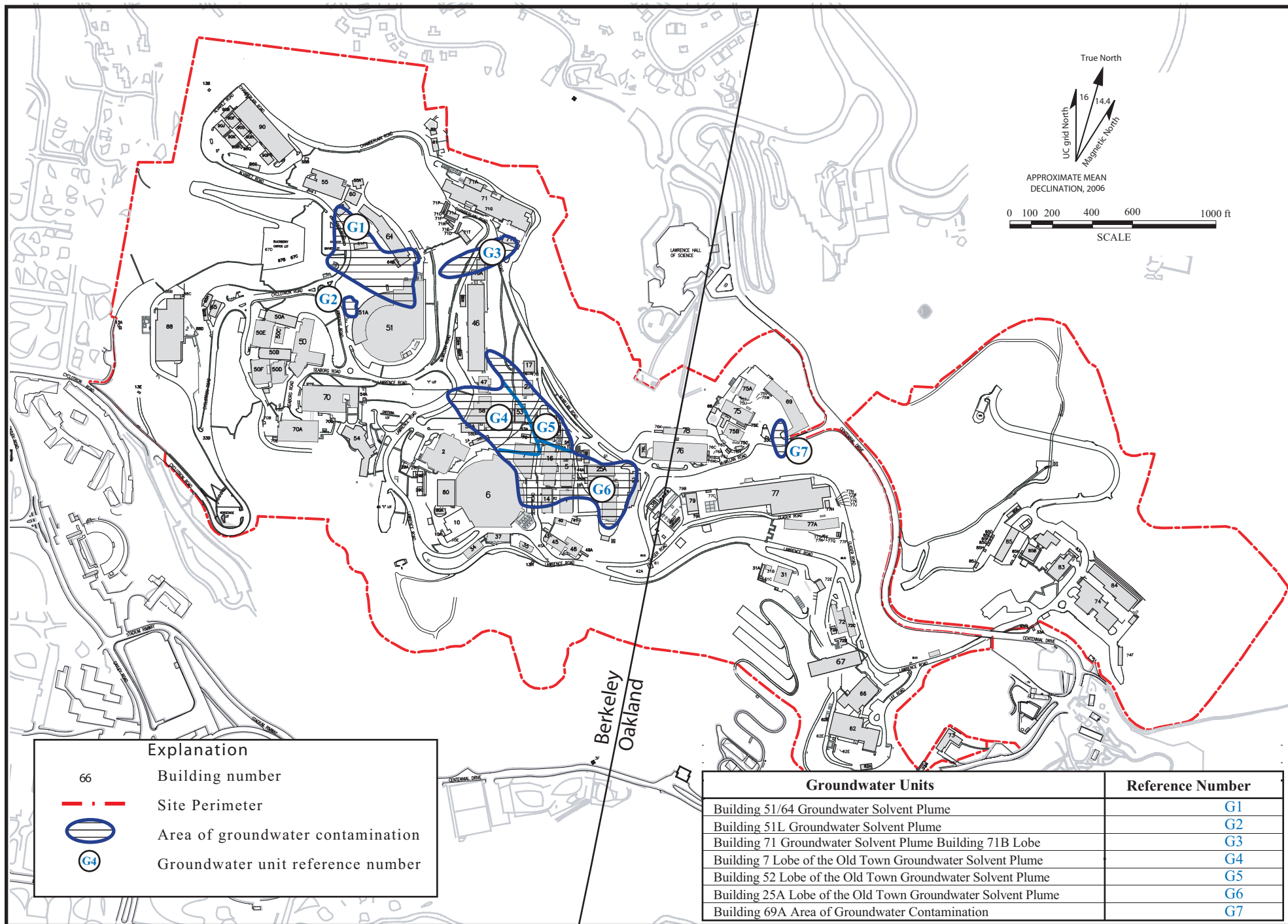






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**Figure 6i. Well Location Map of the Building 74 Area, Lawrence Berkeley National Laboratory**



**Figure 7. Locations of Groundwater Units Requiring Corrective Measures.**

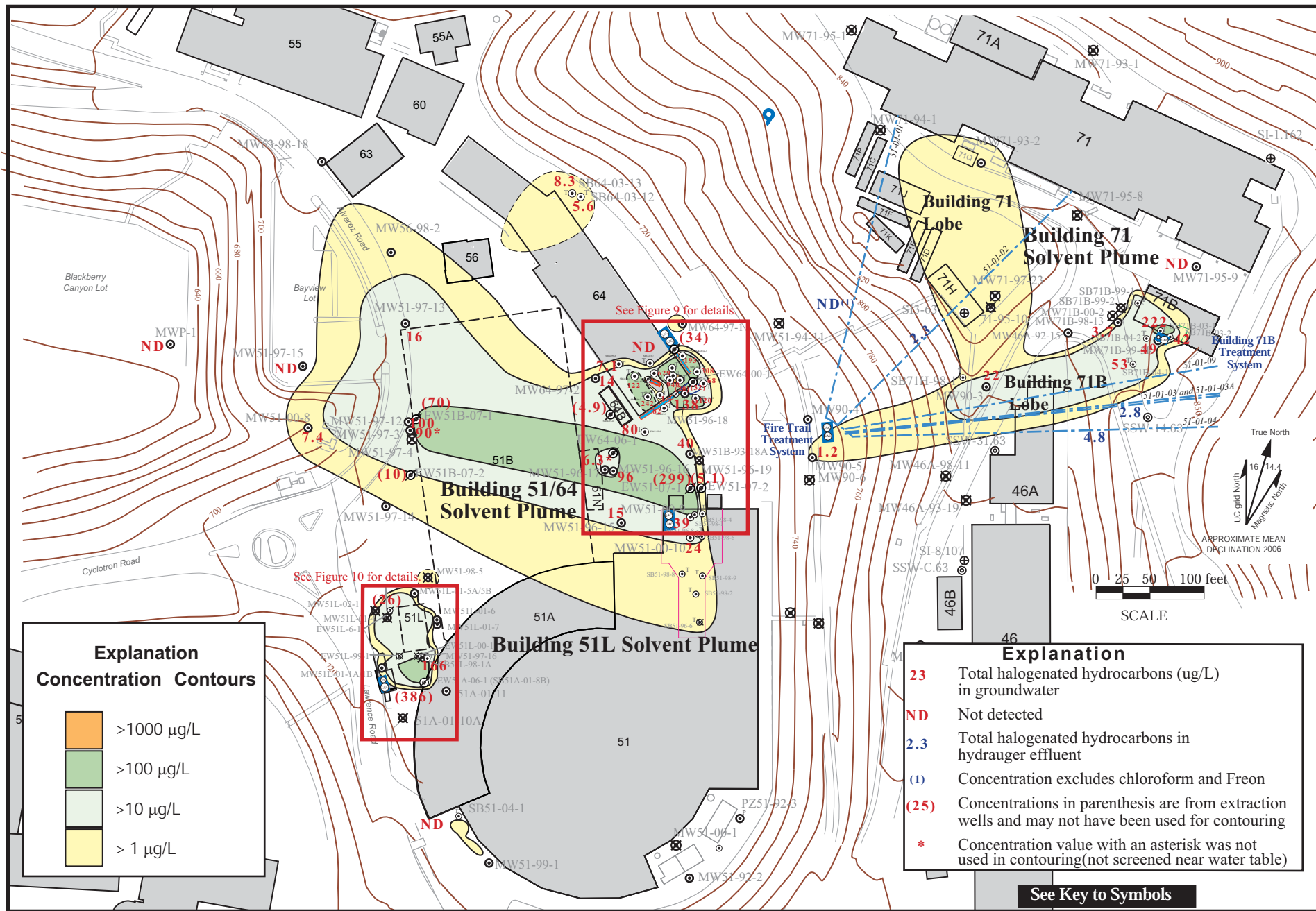
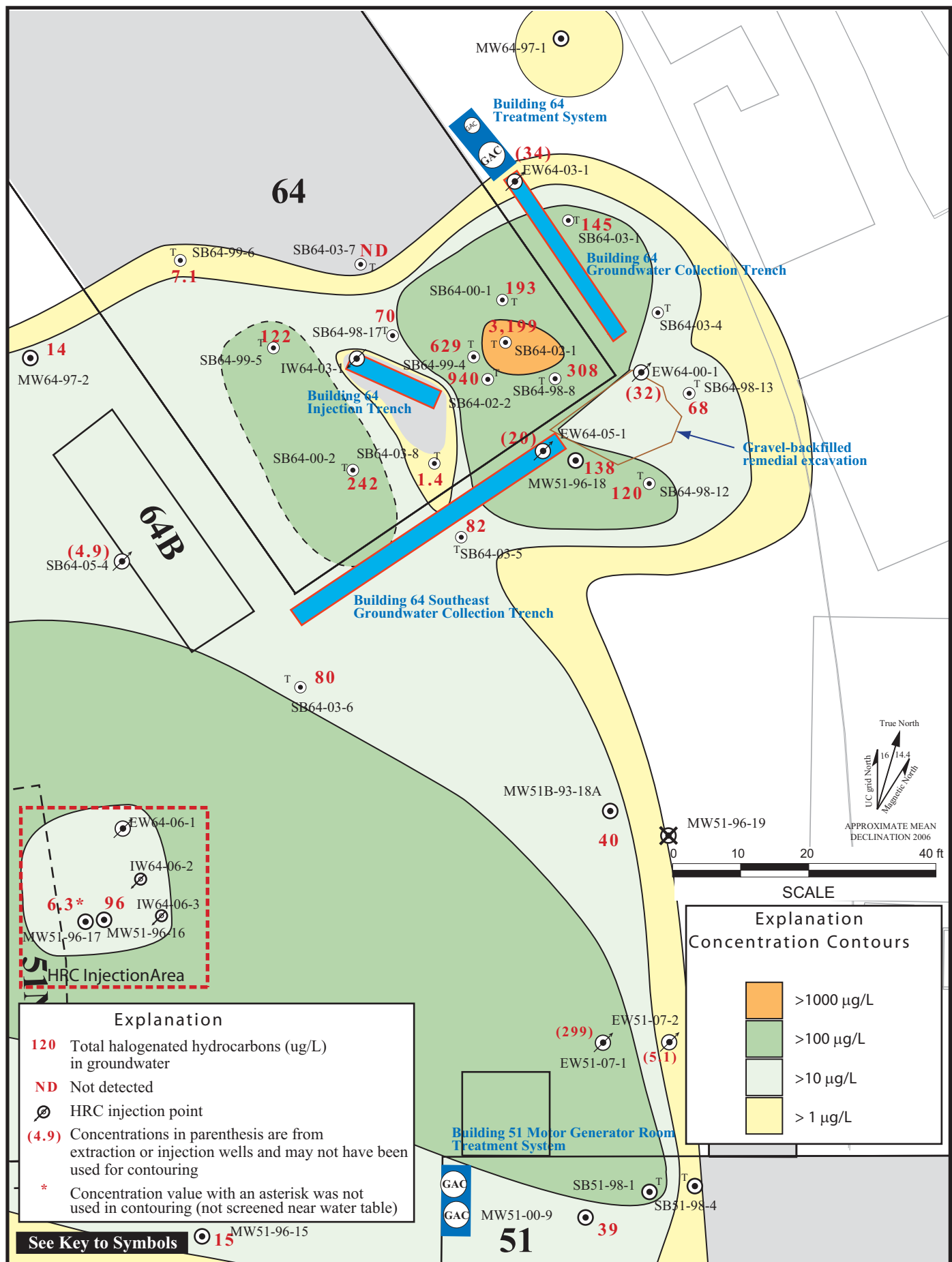
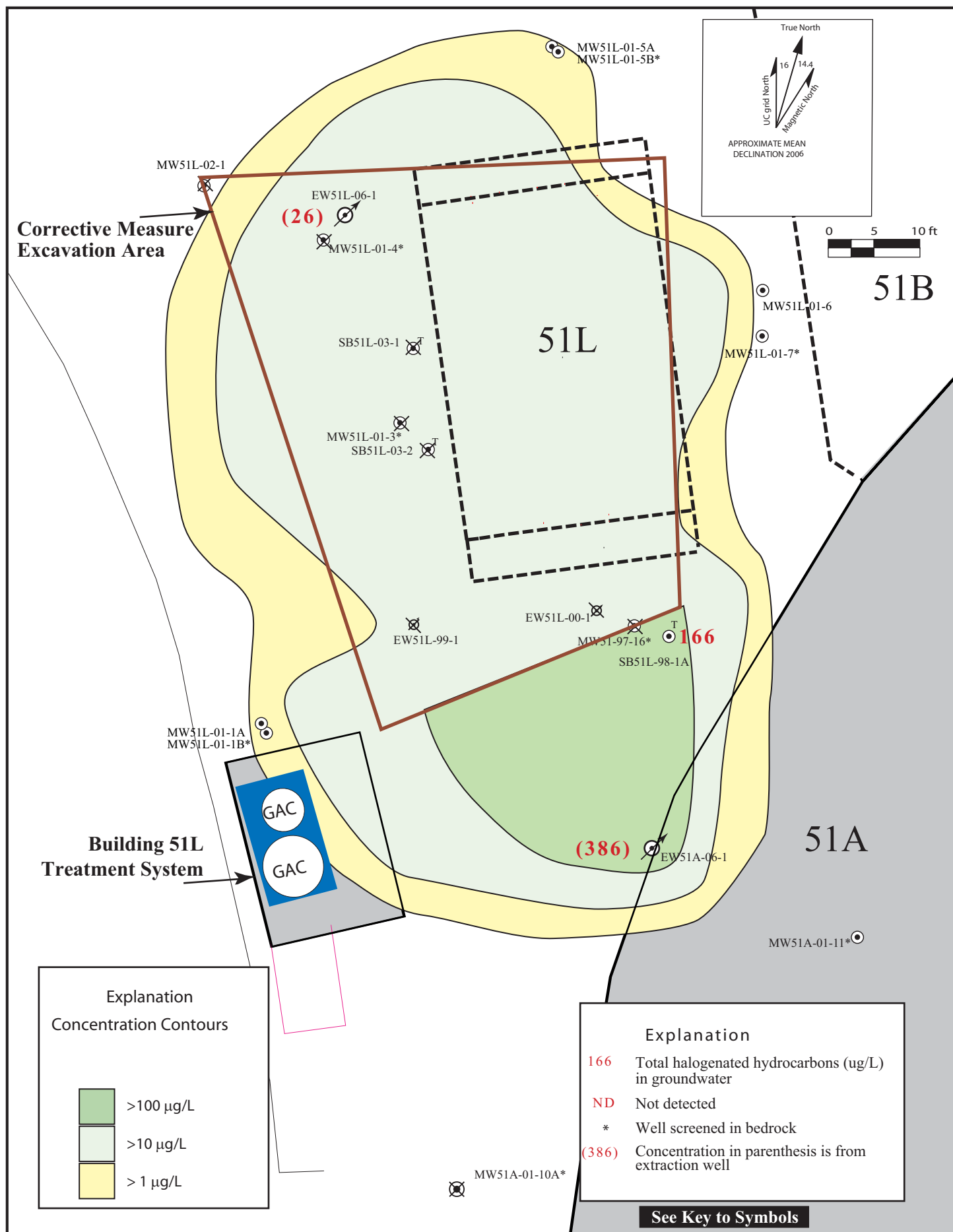


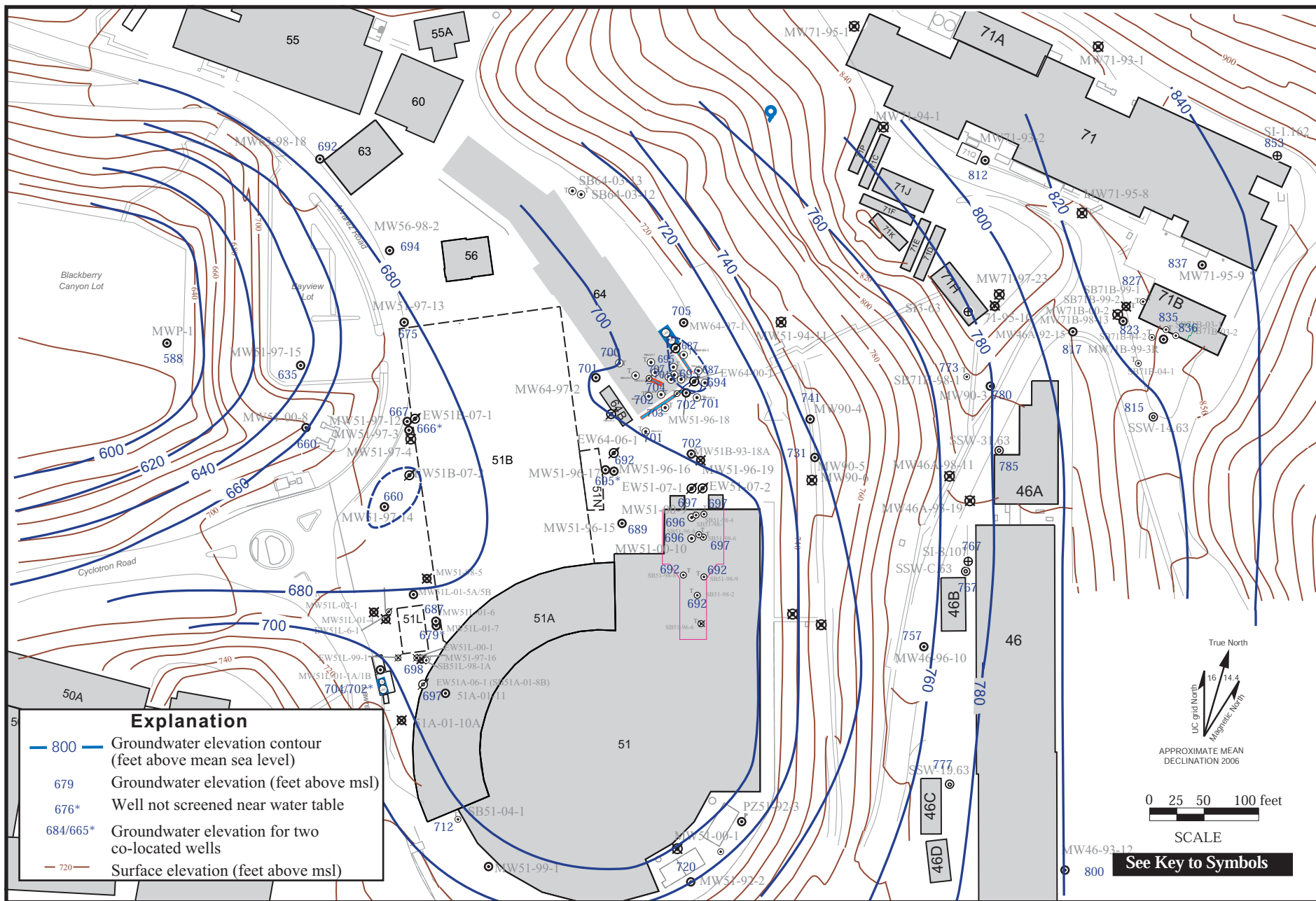
Figure 8. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Bevalac Area, Second Quarter FY08.

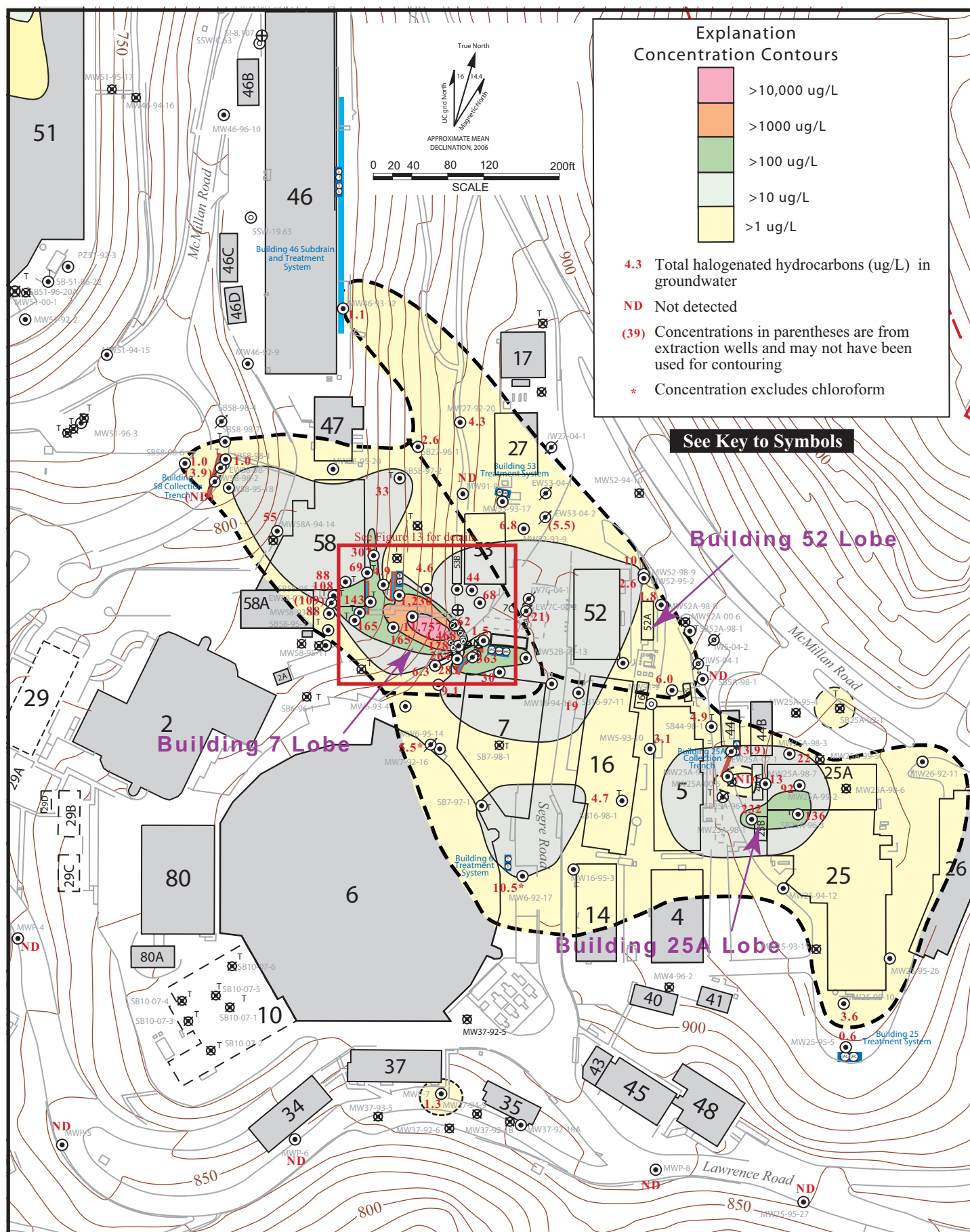






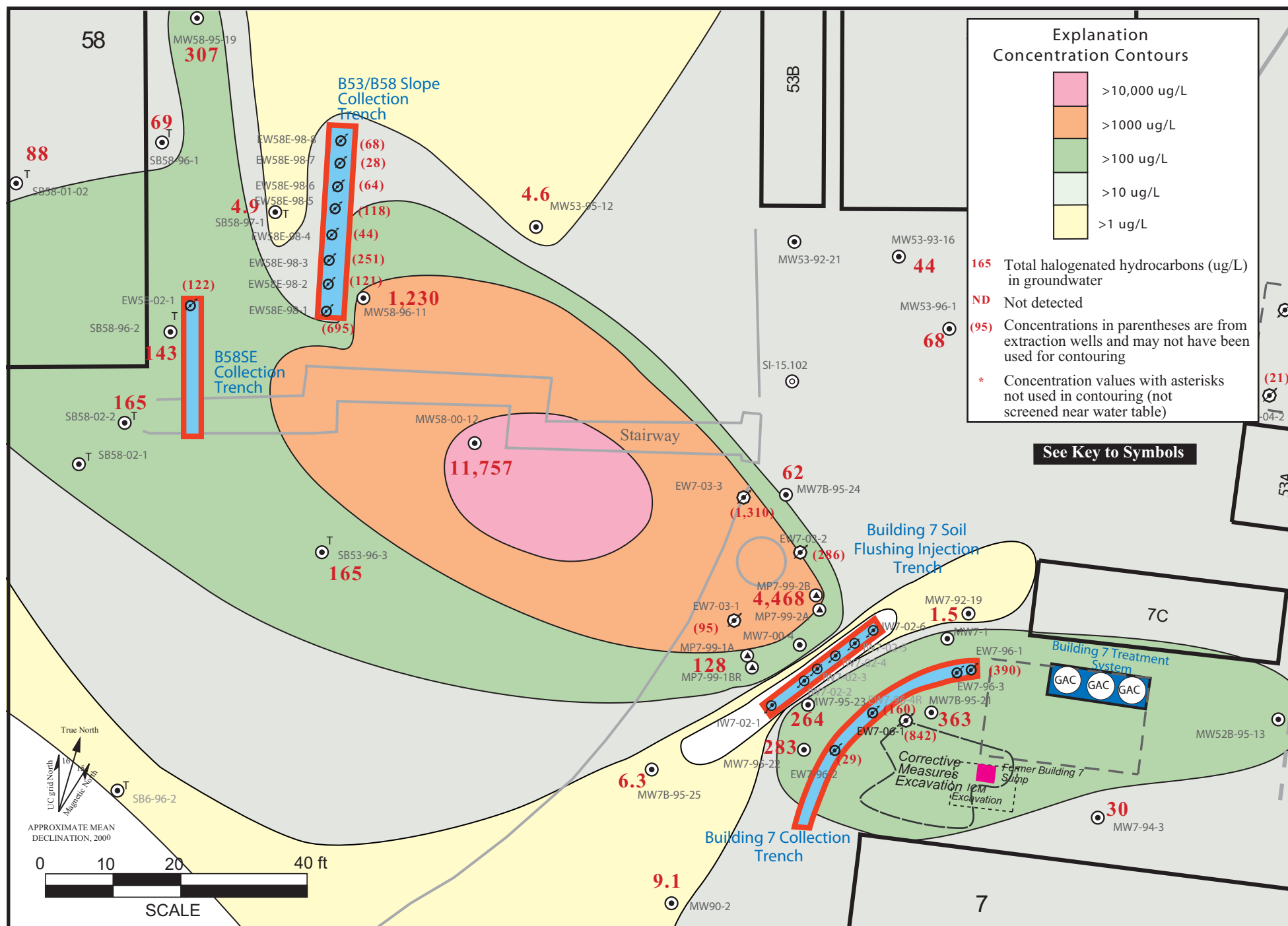
**Figure 10. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater in Fill ( $\mu\text{g/L}$ ), Building 51L Groundwater Solvent Plume, Second Quarter FY08.**





**Figure 12. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Old Town Area, Second Quarter FY08.**





**Figure 13. Isoconcentration Contour Map, Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Source Area of the Old Town Solvent Plume, Second Quarter FY08.**

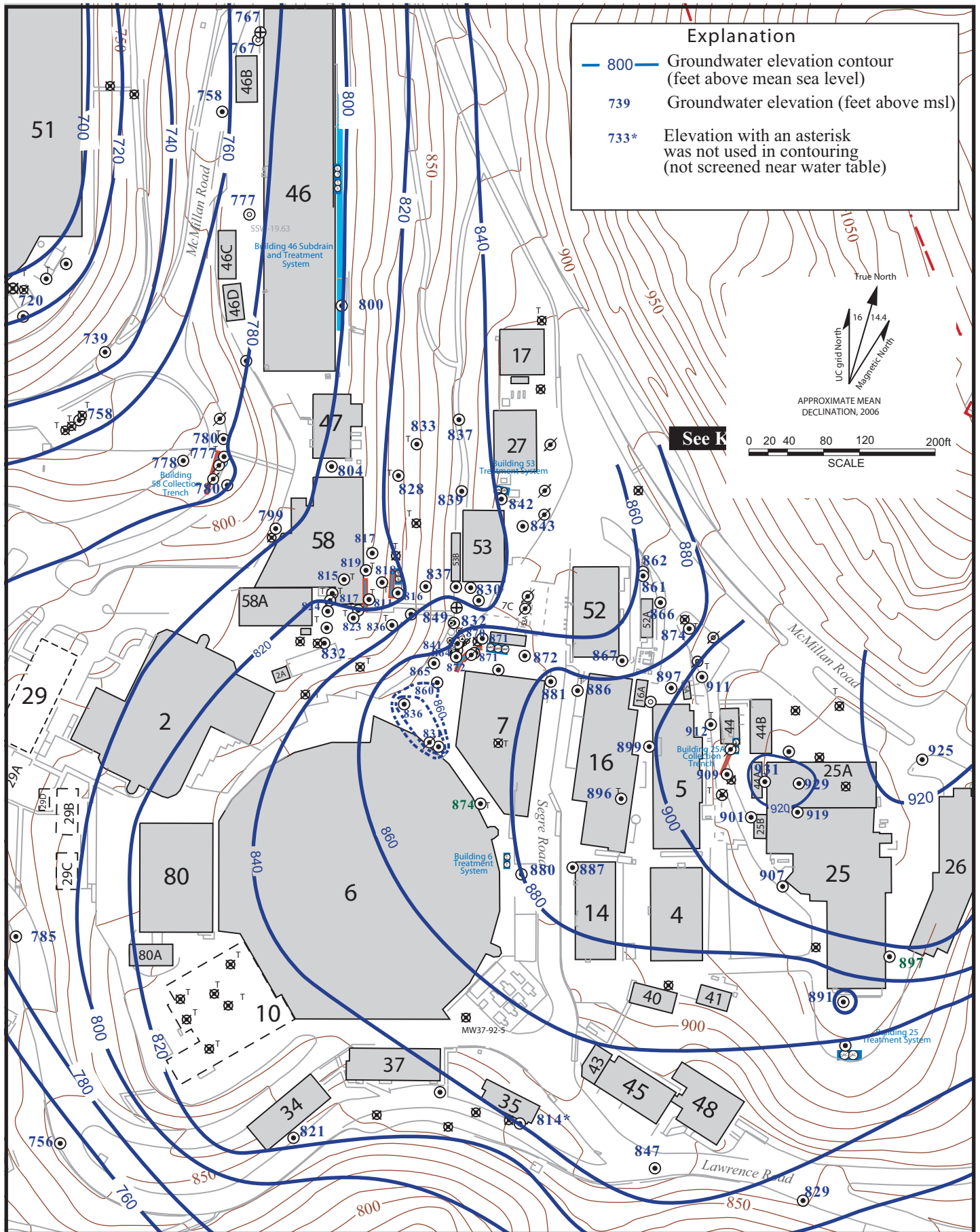
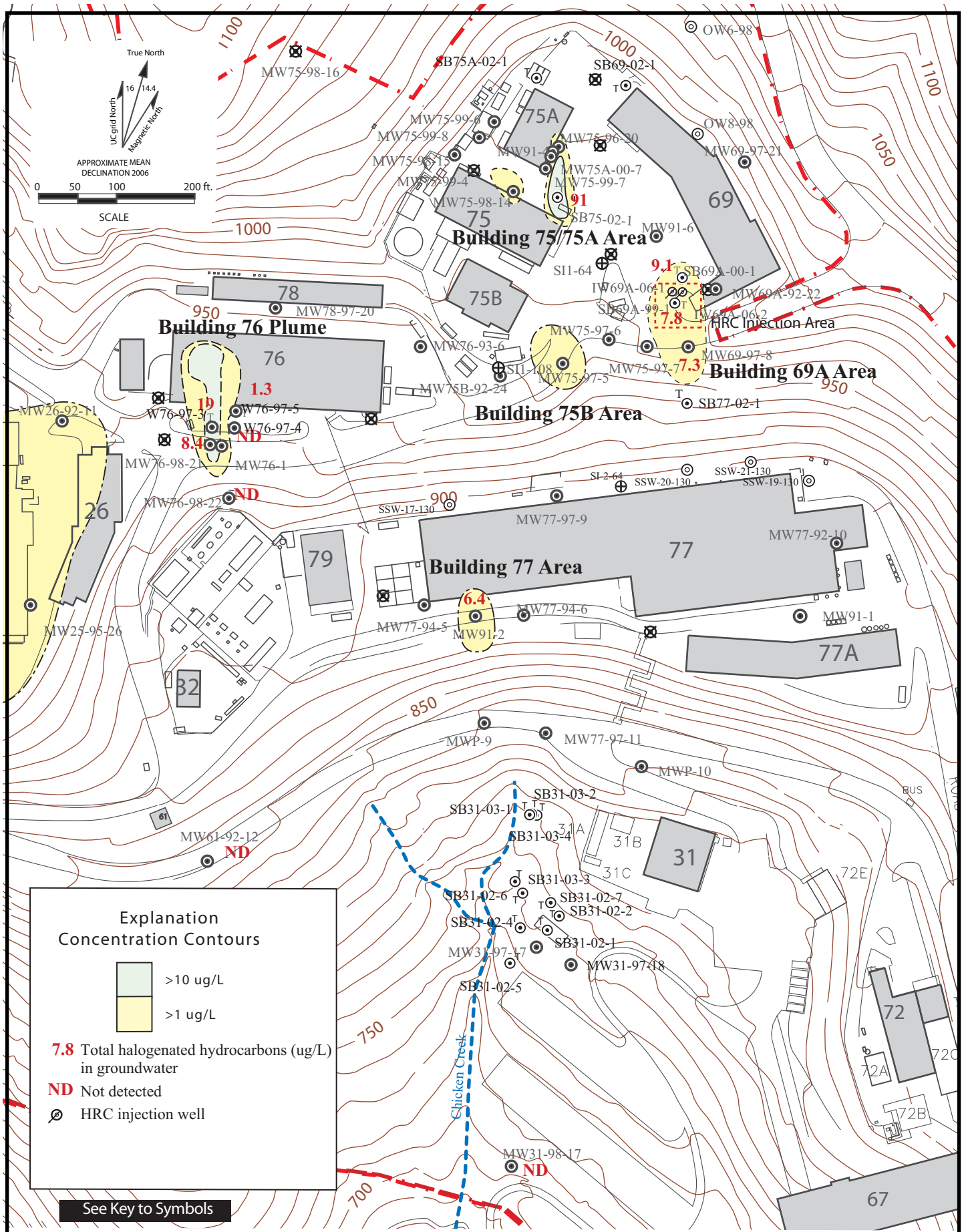
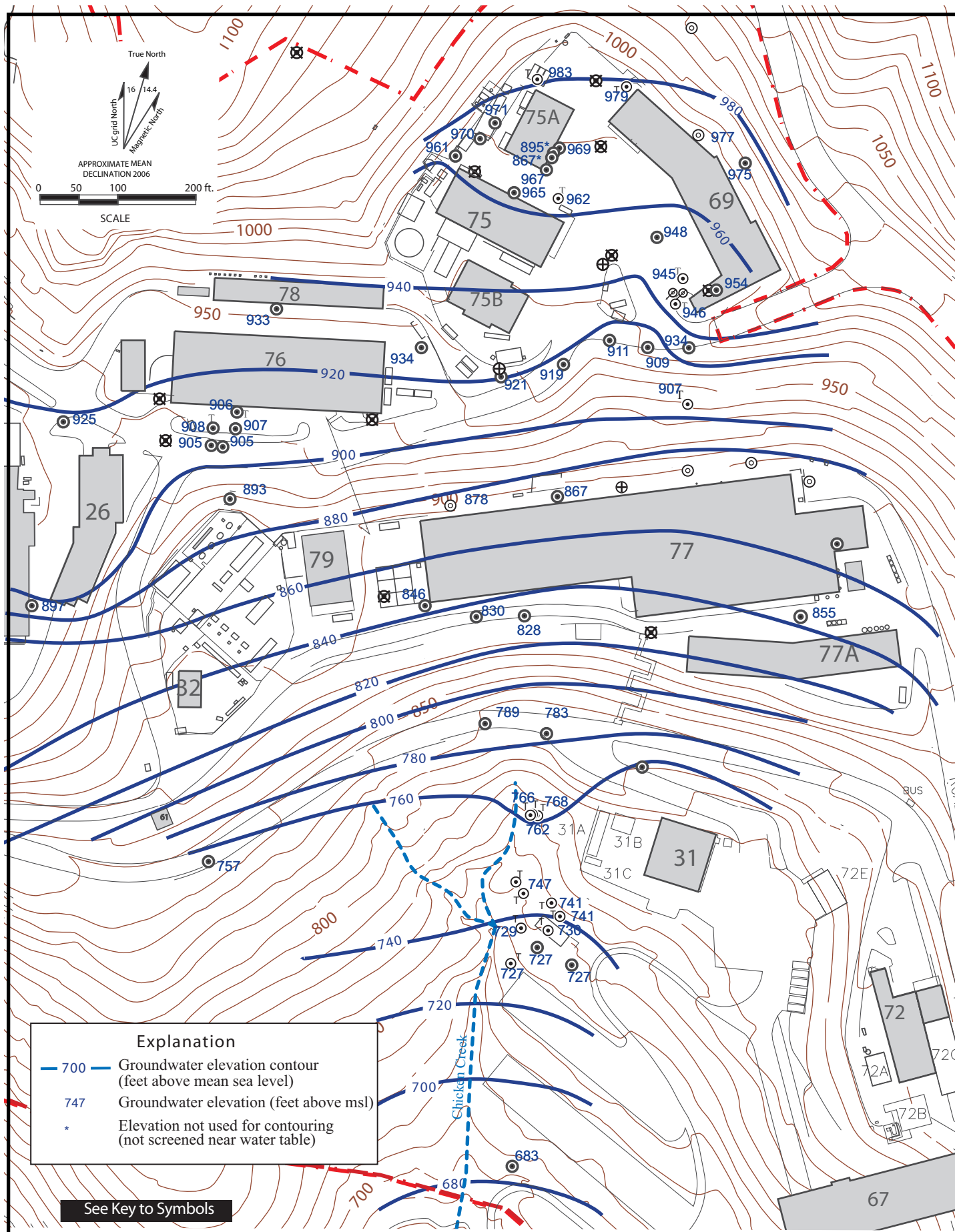


Figure 14. Water Level Elevation Map of the Old Town Area, Second Quarter FY08.



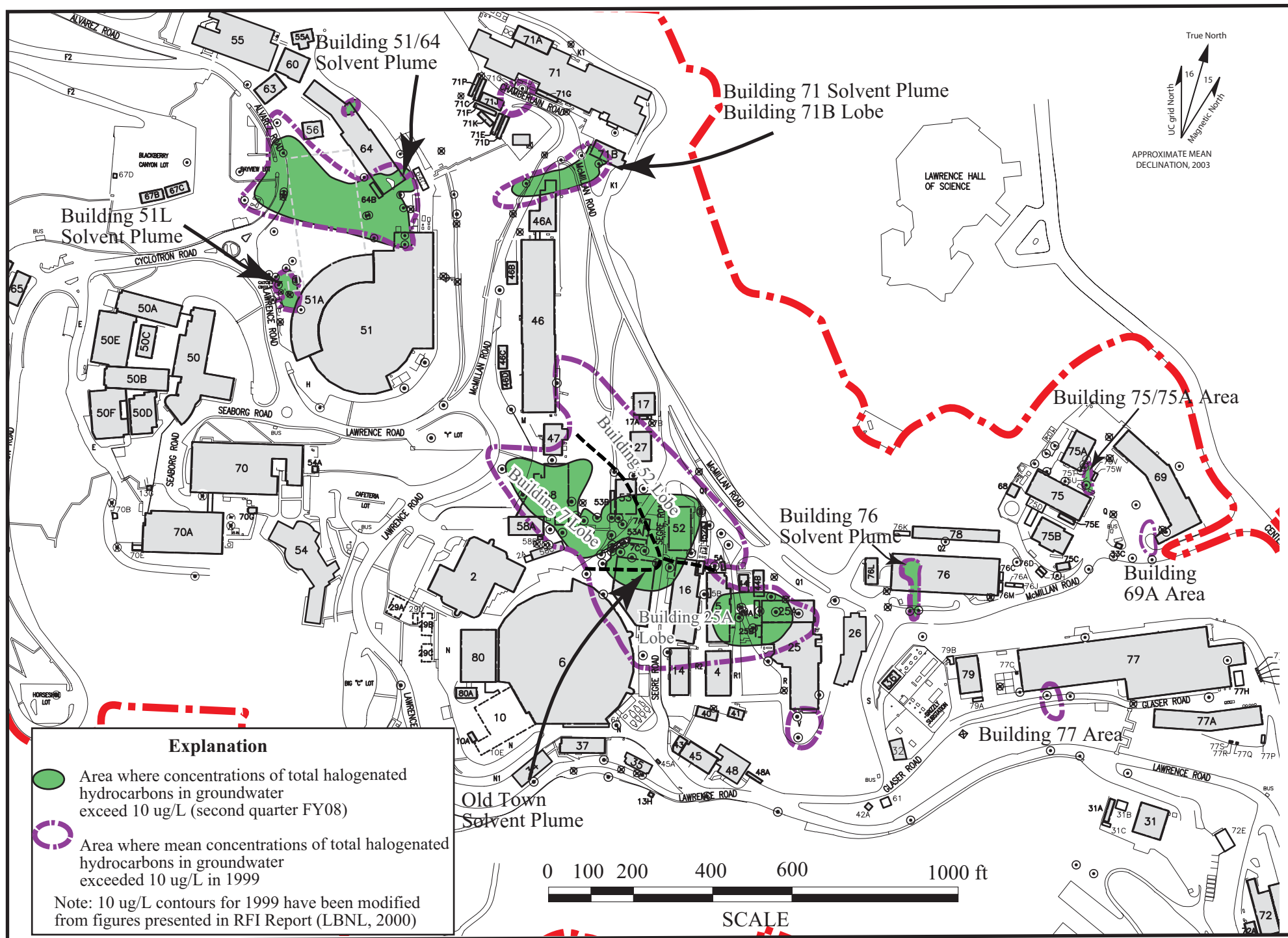
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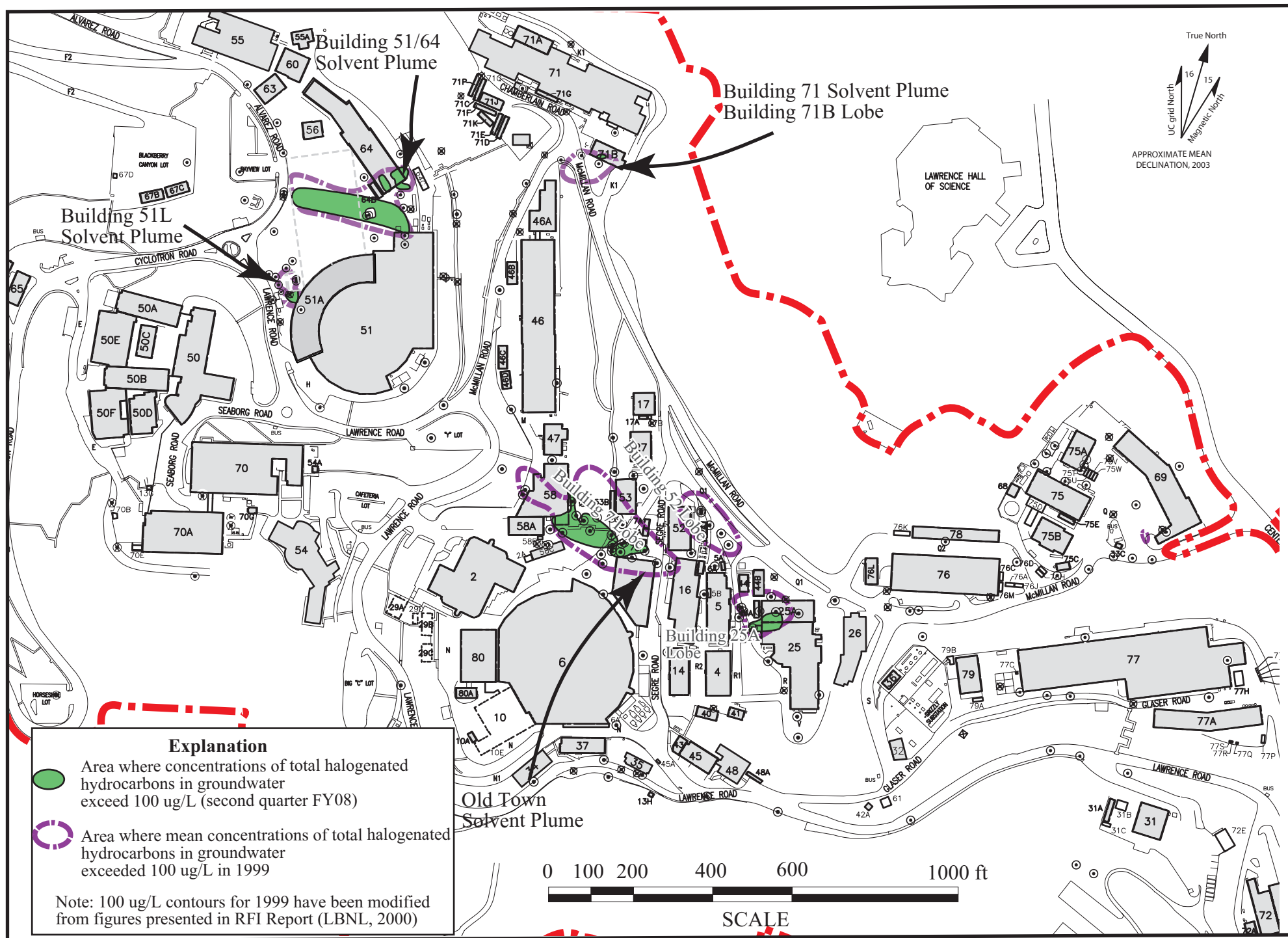


**Figure 16. Water Level Elevation Map of the Support Services Area, Second Quarter FY08.**

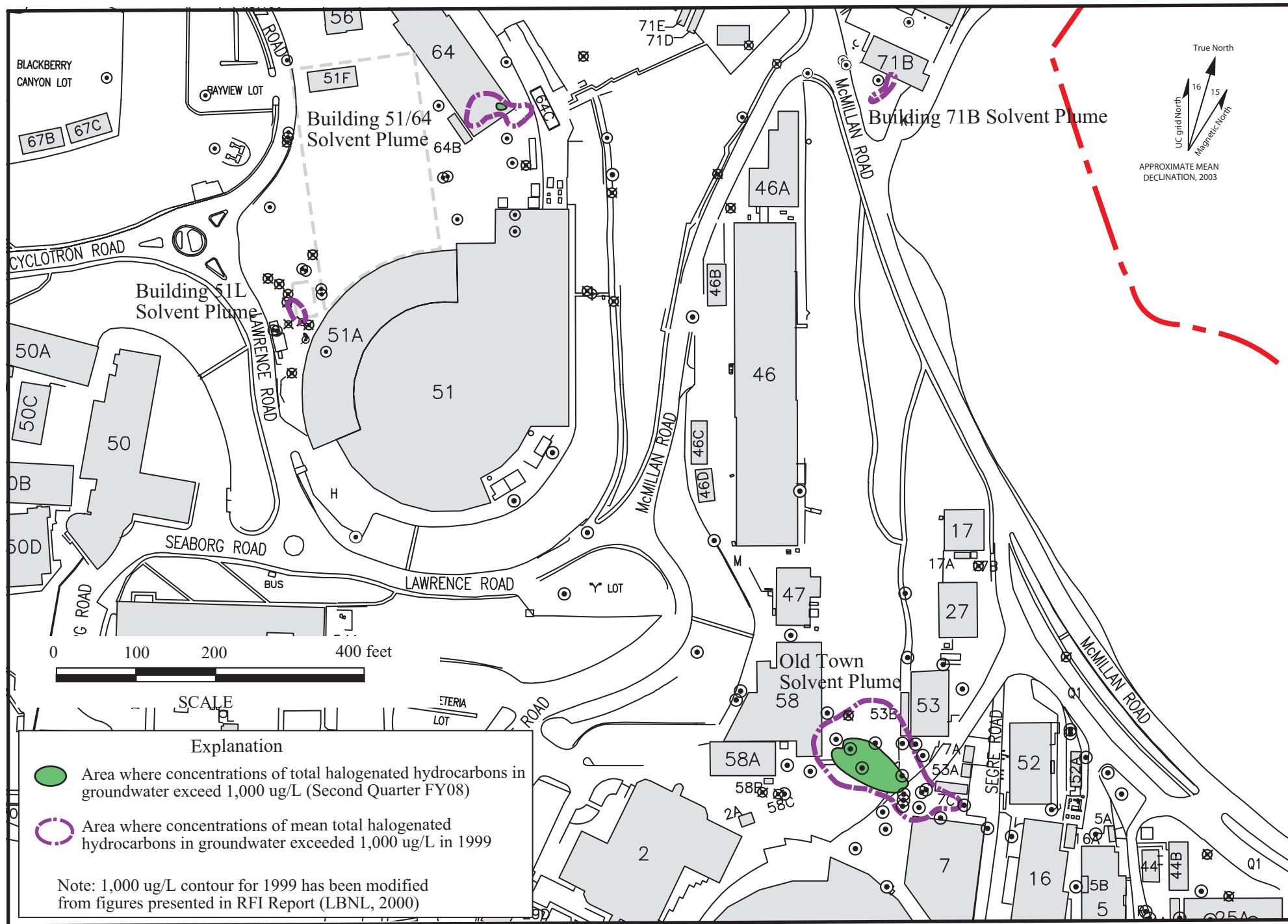




**Figure 17. Extent of Groundwater Contamination (Total VOCs > 10 ug/L) Second Quarter FY08 Compared to 1999.**

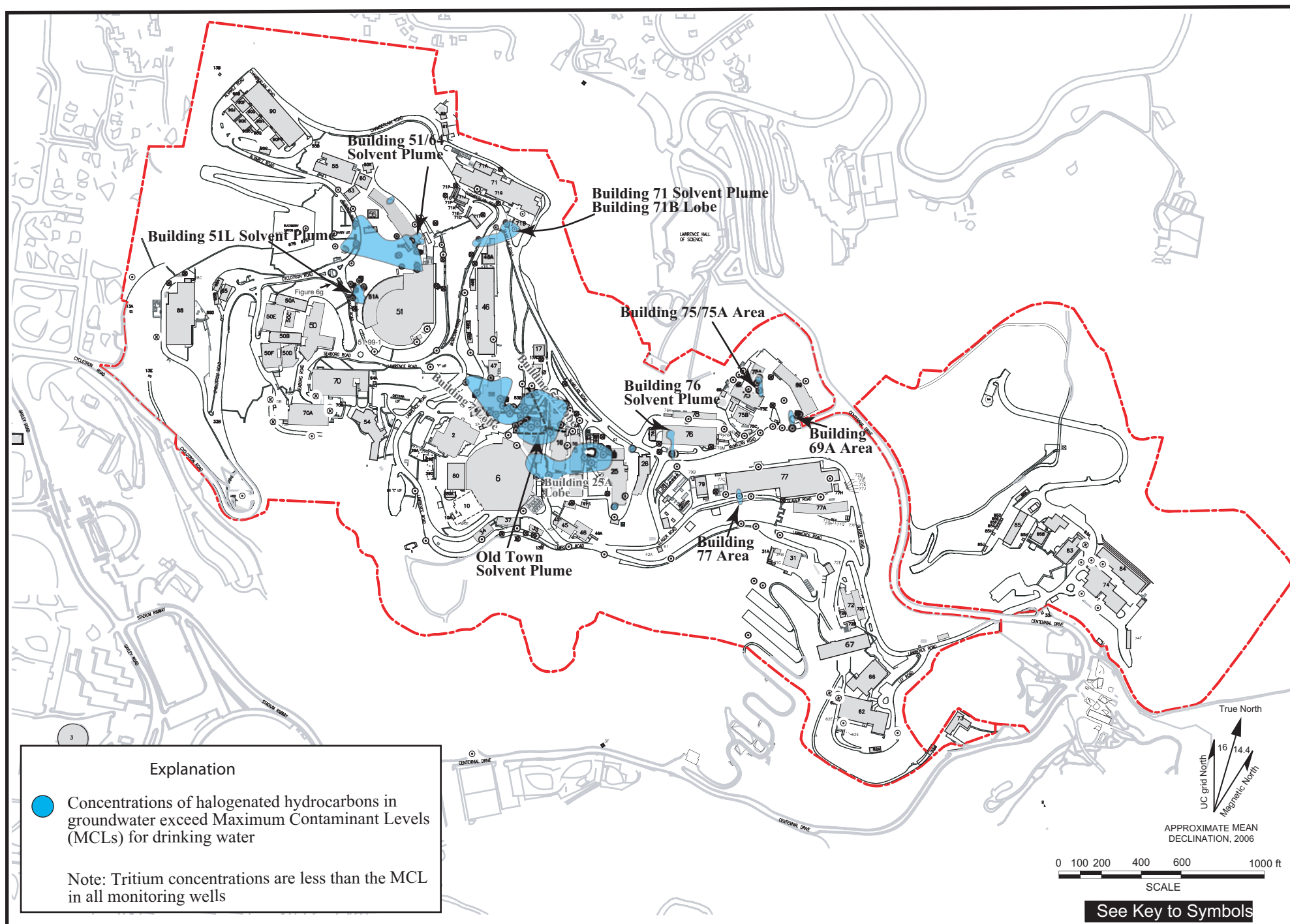


**Figure 18. Extent of Groundwater Contamination (Total VOCs > 100 ug/L) Second Quarter FY08 Compared to 1999.**

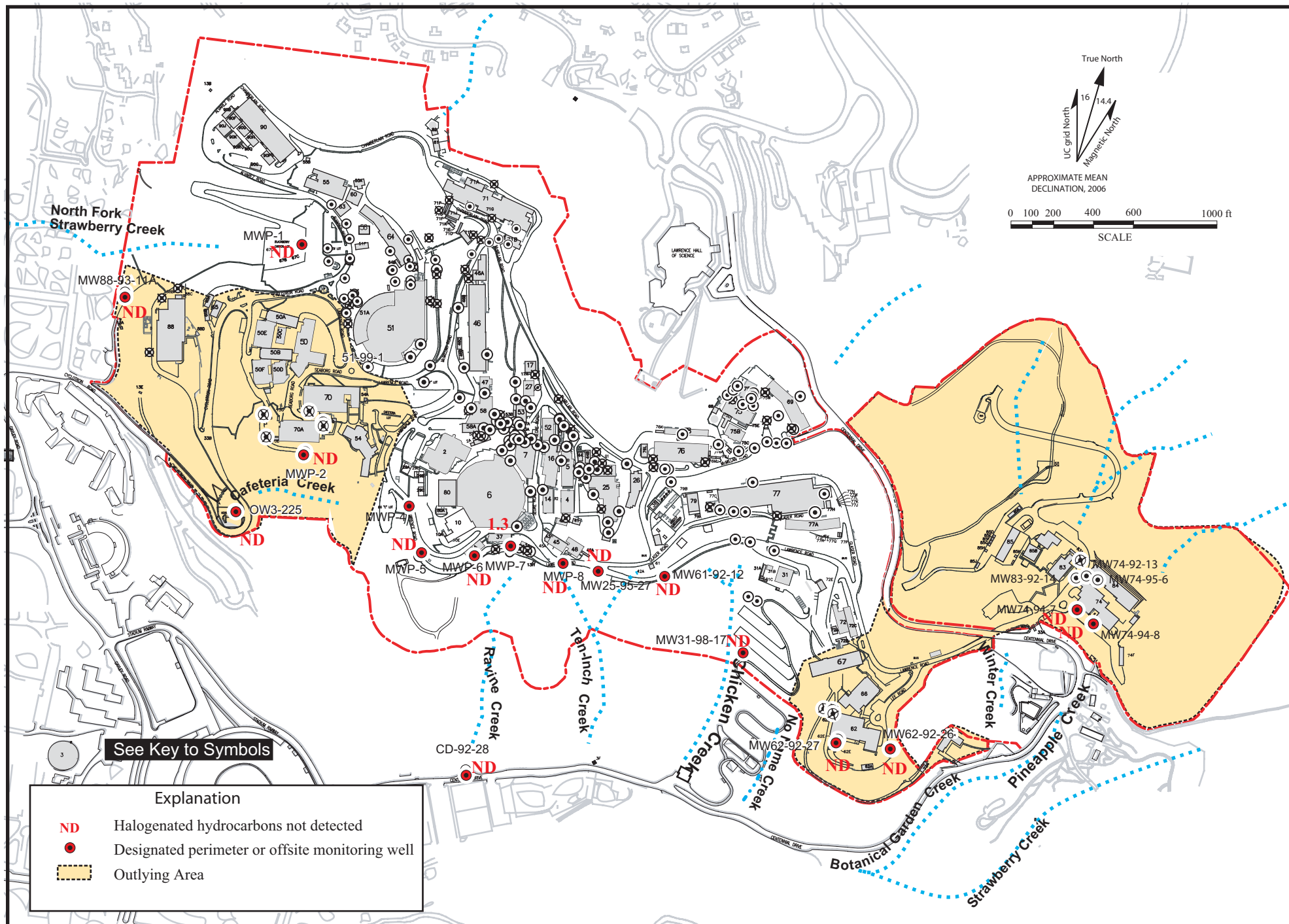


**Figure 19. Extent of Groundwater Contamination (Total VOCs > 1,000 ug/L) Second Quarter FY08 Compared to 1999.**



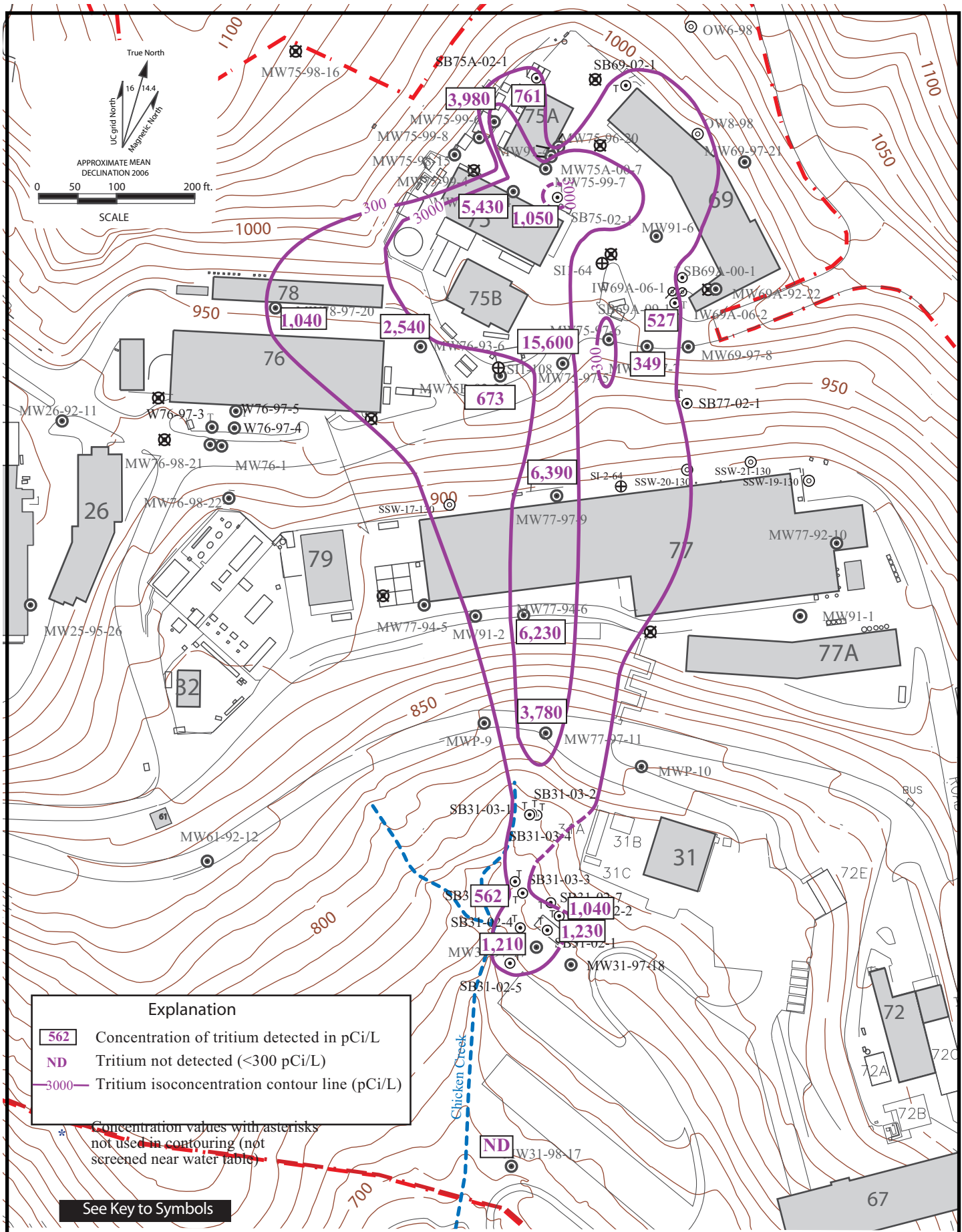


**Figure 20. Extent of Halogenated Hydrocarbons in Groundwater Above MCLs, Second Quarter FY08.**



**Figure 21. Total Halogenated Hydrocarbons in Groundwater (ug/L) in the Outlying Areas and Perimeter Monitoring Wells, Second Quarter FY08.**





**Figure 22. Tritium Concentrations in Groundwater (pCi/L) in Corporation Yard Area, Second Quarter FY08.**

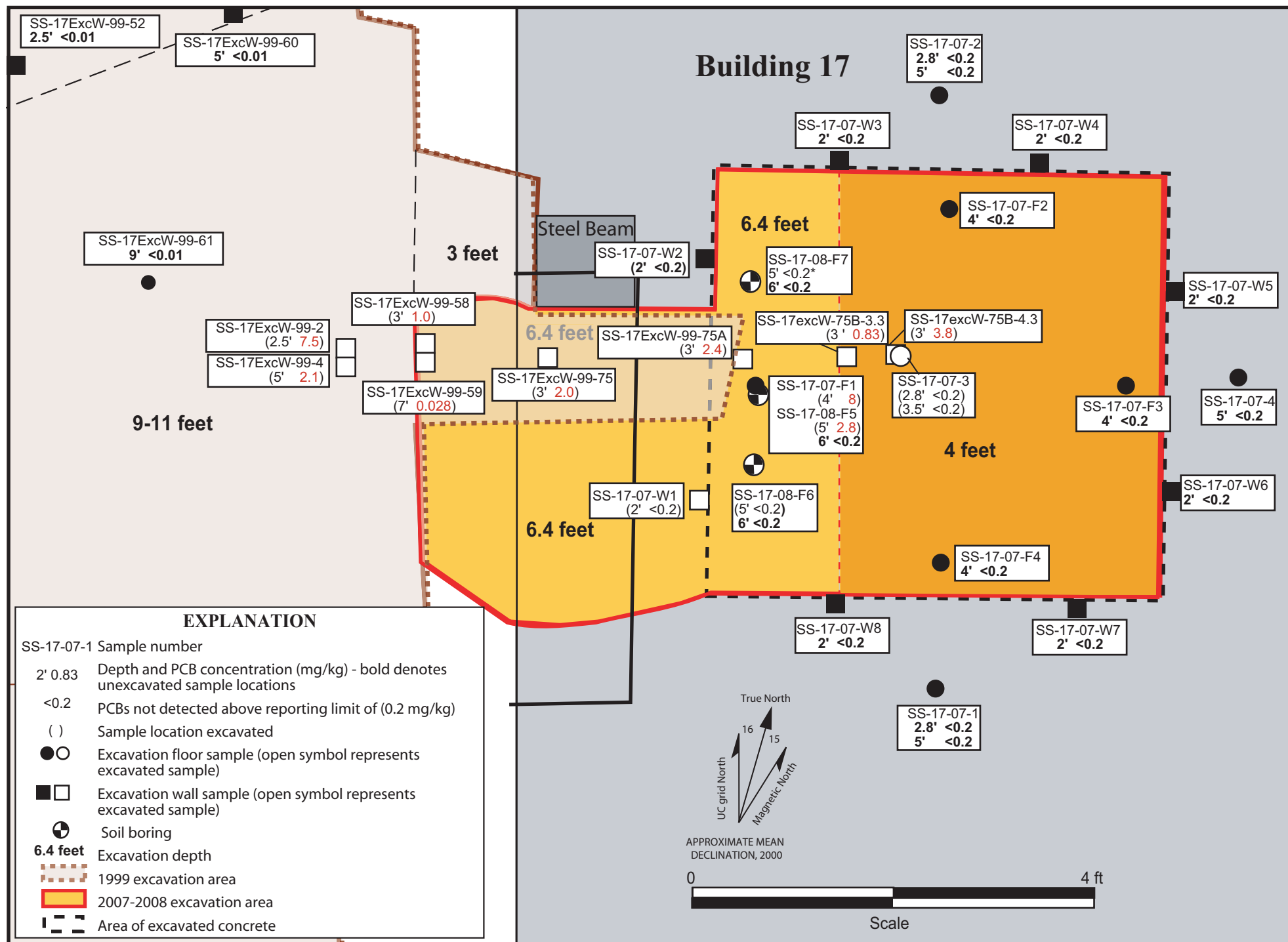


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**Table 1**  
**EPA Method 8260 Quantitation Limits**  
**for Soil and Groundwater Samples**  
**2nd Quarter FY 2008**

Compound	Water Samples µg/L	
	LBNL EML	BC Laboratories
Benzene	1.0	0.5
Bromobenzene	1.0	
Bromochloromethane	2.0	
Bromodichloromethane	1.0	0.5
Bromoform	2.0	0.5
Bromomethane	10.0	0.5
n-Butylbenzene	1.0	
sec-Butylbenzene	1.0	
tert-Butylbenzene	1.0	
Carbon Tetrachloride	1.0	0.5
Chlorobenzene	1.0	0.5
Chlorodifluoromethane (Freon-22)	30.0	
Chloroethane	30.0	0.5
Chloroform	3.0	0.5
Chloromethane	10.0	0.5
2-Chlorotoluene	2.0	
4-Chlorotoluene	2.0	
Dibromochloromethane	2.0	0.5
1,2-Dibromo-3-chloropropane	2.0	1
1,2-Dibromoethane	2.0	
Dibromomethane	1.0	
1,2-Dichlorobenzene	1.0	
1,3-Dichlorobenzene	1.0	
1,4-Dichlorobenzene	1.0	
Dichlorodifluoromethane (Freon-12)	3.0	0.5
1,1-Dichloroethane	1.0	0.5
1,2-Dichloroethane	2.0	0.5
1,1-Dichloroethene	1.0	0.5
cis-1,2-Dichloroethene	1.0	0.5
trans-1,2-Dichloroethene	1.0	0.5
Dichlorofluoromethane (Freon-21)	3.0	
1,2-Dichloropropane	1.0	0.5
1,3-Dichloropropane	1.0	
2,2-Dichloropropane	1.0	
1,1-Dichloropropene	1.0	
cis-1,3-Dichloropropene	1.0	0.5
trans-1,3-Dichloropropene	1.0	0.5
1,2-Dichlorotetrafluoroethane (Freon-114)	3.0	
Dichlorotrifluoroethane (Freon-123)	1.0	
1,2-Dichlorotrifluoroethane (Freon-123A)	1.0	
Ethylbenzene	1.0	0.5
Hexachlorobutadiene	3.0	
Isopropylbenzene	2.0	

**Table 1 (Cont'd)**  
**EPA Method 8260 Quantitation Limits**  
**for Soil and Groundwater Samples**  
**2nd Quarter FY 2008**

Compound	Water Samples µg/L	
	LBNL EML	BC Laboratories
p-Isopropyltoluene	1.0	
Methylene Chloride	1.0	1
Methyl tert-Butyl Ether	5.0	
Naphthalene	2.0	
n-Propylbenzene	1.0	
Styrene	1.0	0.5
1,1,2,2-Tetrachloroethane	1.0	0.5
1,1,1,2-Tetrachloroethane	2.0	0.5
Tetrachloroethene	1.0	0.5
Toluene	1.0	0.5
1,2,3-Trichlorobenzene	2.0	
1,2,4-Trichlorobenzene	1.0	
1,1,1-Trichloroethane	1.0	0.5
1,1,2-Trichloroethane	1.0	0.5
Trichloroethene	1.0	0.5
Trichlorofluoromethane (Freon-11)	2.0	0.5
1,2,3-Trichloropropane	1.0	1
Trichlorotrifluoroethane (Freon-113)	1.0	0.5
1,2,4-Trimethylbenzene	1.0	
1,3,5-Trimethylbenzene	1.0	
Vinyl Chloride	1.0	0.5
Total-Xylene	2.0	1
Acetone		10
Acetonitrile		100
Acrolein		50
Acrylonitrile		50
Carbon Disulfide		5
2-Chloroethyl vinyl ether		10
Chloroprene		5
trans-1,4-Dichloro-2-butene		5
1,4-Dioxane		100
Ethanol		1000
2-Hexanone		10
Methyl ethyl ketone		10
Methyl isobutyl ketone		10
Vinyl Acetate		20

= Compound not included in analysis

**Table 2**  
**Groundwater Sampling Locations and Analytical Methods**  
**2nd Quarter FY 2008**

Location	Area	VOCs - 8260				TPH-D 8015	Tritium 906
		Page #	Jan	Feb	Mar		
Trip Blank		T-65	√√√√	√√√√√	√√√√		
Field Blank		T-64	√√√√√	√√√√√	√√√√√		√√√
MW90-2 <sup>S</sup>	2	T-38	√		√		
MW90-3 <sup>S</sup>	1	T-23		√			
MW90-4 <sup>A</sup>	1						
MW90-5 <sup>S</sup>	1	T-23	√				
MW91-1 <sup>A</sup>	5						
MW91-2 <sup>S</sup>	5	T-46		√			
MW91-4 <sup>N</sup>	3						
MW91-6 <sup>N</sup>	3						
MW91-8 <sup>S</sup>	2	T-38	√	√	√		
MW91-9 <sup>A</sup>	10	T-38	√	√	√		
MWP-1 <sup>Q</sup>	15	T-23	√				
MWP-2 <sup>S</sup>	8	T-48	√				
MWP-4 <sup>S</sup>	14	T-38	√				
MWP-5 <sup>S</sup>	14	T-38	√				
MWP-6 <sup>S</sup>	14	T-38		√			
MWP-7 <sup>T</sup>	14	T-38	√				
MWP-8 <sup>S</sup>	10	T-38	√				
MWP-9 <sup>A</sup>	5						
MWP-10 <sup>N</sup>	5						
MW76-1 <sup>A</sup>	4						
51-92-2 <sup>N</sup>	9						
46-92-9 <sup>A</sup>	7						
77-92-10 <sup>N</sup>	5						
26-92-11 <sup>A</sup>	10						
61-92-12 <sup>S</sup>	5	T-46	√				
74-92-13 <sup>N</sup>	11						
83-92-14 <sup>N</sup>	11						
46A-92-15 <sup>A</sup>	1						
7-92-16 <sup>S</sup>	2						
6-92-17 <sup>S</sup>	14	T-33		√			
37-92-18A <sup>N</sup>	14						
7-92-19 <sup>S</sup>	2	T-33		√			
27-92-20 <sup>Q</sup>	2	T-35	√	√	√		
53-92-21-130 <sup>N</sup>	2						
53-92-21-147 <sup>N</sup>	2						
53-92-21-167 <sup>N</sup>	2						
53-92-21-193 <sup>N</sup>	2						
69A-92-22 <sup>A</sup>	3						
75B-92-24 <sup>N</sup>	3						√

**Table 2 (Cont'd)**  
**Groundwater Sampling Locations and Analytical Methods**  
**2nd Quarter FY 2008**

Location	Area	VOCs - 8260				TPH-D 8015	Tritium 906
		Page #	Jan	Feb	Mar		
62-92-26 <sup>S</sup>	13	T-48	√				
62-92-27 <sup>S</sup>	13	T-48	√				
CD-92-28 <sup>S</sup>	OS	T-48	√				
71-93-2 <sup>N</sup>	1						
58-93-3 <sup>S</sup>	7	T-37		√			
6-93-4 <sup>A</sup>	2						
76-93-6 <sup>N</sup>	4						√
53-93-9 <sup>Q</sup>	2	T-36	√	√	√		
5-93-10 <sup>S</sup>	10	T-33	√	√	√		
88-93-11A <sup>S</sup>	6	T-48		√			
46-93-12 <sup>S</sup>	7	T-36	√				
88-93-13 <sup>N</sup>	6						
52-93-14 <sup>A</sup>	10						
53-93-16-42 <sup>A</sup>	2						
53-93-16-69 <sup>S</sup>	2	T-37	√	√	√		
53-93-17 <sup>N</sup>	2						
51B-93-18A <sup>S</sup>	9	T-23		√,D			
7-94-3 <sup>S</sup>	2	T-33		√			
77-94-5 <sup>N</sup>	5						
77-94-6 <sup>N</sup>	5						√
74-94-7 <sup>S</sup>	11	T-48	√				
74-94-8 <sup>S</sup>	11	T-48	√				
25-94-12 <sup>A</sup>	10						
16-94-13 <sup>A</sup>	10						
58A-94-14 <sup>S</sup>	7	T-38		√			
51-94-15 <sup>A</sup>	7						
52-95-2A	10						
52-95-2B <sup>S</sup>	10	T-36	√	√	√		
16-95-3 <sup>N</sup>	10						
25-95-5 <sup>N</sup>	10	T-34	√	√	√		
74-95-6 <sup>A</sup>	11						
71-95-9 <sup>N</sup>	1	T-23		√			√
58-95-11 <sup>A</sup>	7						
53-95-12 <sup>S</sup>	2	T-37			√		
52B-95-13 <sup>A</sup>	2						
6-95-14 <sup>A</sup>	2	T-33	√				
25A-95-15 <sup>S</sup>	10	T-35		√,D			
58-95-18 <sup>A</sup>	7						
58-95-19 <sup>S</sup>	7	T-37		√			
58-95-20 <sup>A</sup>	7						
7B-95-21 <sup>S</sup>	2	T-33	√	√	√		
7-95-22 <sup>S</sup>	2	T-33	√	√	√		

**Table 2 (Cont'd)**  
**Groundwater Sampling Locations and Analytical Methods**  
**2nd Quarter FY 2008**

Location	Area	VOCs - 8260				TPH-D 8015	Tritium 906
		Page #	Jan	Feb	Mar		
7-95-23 <sup>Q</sup>	2	T-33	√	√	√		
7B-95-24 <sup>Q</sup>	2	T-34	√	√	√		
7B-95-25 <sup>S</sup>	2	T-34	√		√		
25-95-26 <sup>A</sup>	10						
25-95-27 <sup>S</sup>	10	T-34	√				
53-96-1 <sup>A</sup>	2	T-37	√	√,D	√		
51-96-3 <sup>A</sup>	7						
46-96-10 <sup>A</sup>	7						
58-96-11 <sup>Q</sup>	2	T-37	√	√,D	√		
51-96-15 <sup>S</sup>	9	T-22		√			
51-96-16 <sup>S</sup>	9	T-22	√	√	√		
51-96-17 <sup>A</sup>	9	T-22	√	√	√		
51-96-18 <sup>S</sup>	9	T-22	√	√	√		
75-96-20 <sup>A</sup>	3						
64-97-1 <sup>A</sup>	9						
64-97-2 <sup>S</sup>	9	T-23		√			
51-97-3 <sup>A</sup>	9	T-22		√			
75-97-5 <sup>N</sup>	3						√
75-97-6 <sup>N</sup>	3						
75-97-7 <sup>N</sup>	3						√
69-97-8 <sup>S</sup>	3	T-46	√	√	√		
77-97-9 <sup>N</sup>	5						√
77-97-11 <sup>N</sup>	5						√
51-97-12 <sup>S</sup>	9	T-22		√			
51-97-13 <sup>A</sup>	9	T-22		√			
51-97-14 <sup>A</sup>	9						
51-97-15 <sup>S</sup>	9	T-22	√				
31-97-17 <sup>N</sup>	5						√
31-97-18 <sup>N</sup>	5						√
78-97-20 <sup>N</sup>	4						√
69-97-21 <sup>N</sup>	3						
25A-98-1 <sup>S</sup>	10	T-35	√	√	√		
56-98-2 <sup>A</sup>	9						
25A-98-3 <sup>S</sup>	10	T-35	√	√	√		
25A-98-7 <sup>S</sup>	10	T-35	√	√,D	√		
52A-98-8A <sup>A</sup>	10						
52A-98-8B <sup>S</sup>	10	T-36	√	√	√		
52-98-9 <sup>A</sup>	10	T-36	√	√,√	√		
25-98-10 <sup>A</sup>	10	T-34	√	√	√		
71B-98-13 <sup>S</sup>	1	T-23	√				
75-98-14 <sup>A</sup>	3						√
75-98-15 <sup>N</sup>	3						

**Table 2 (Cont'd)**  
**Groundwater Sampling Locations and Analytical Methods**  
**2nd Quarter FY 2008**

Location	Area	VOCs - 8260				TPH-D 8015	Tritium 906
		Page #	Jan	Feb	Mar		
31-98-17 <sup>S</sup>	5	T-46	√				
63-98-18 <sup>A</sup>	15						
76-98-21 <sup>S</sup>	4	T-46		√			
76-98-22 <sup>S</sup>	4	T-46		√			
51-99-1 <sup>N</sup>	9						
25A-99-2 <sup>S</sup>	10	T-35	√				
71B-99-3R <sup>Q</sup>	1	T-23	√	√	√		
75-99-6 <sup>N</sup>	3						√
75-99-7 <sup>N</sup>	3						
75-99-8 <sup>N</sup>	3						
7-00-4 <sup>A</sup>	2						
75A-00-7 <sup>A</sup>	3						
51-00-8 <sup>Q</sup>	9	T-23		√			
51-00-9 <sup>N</sup>	9	T-23	√				
51-00-10 <sup>A</sup>	9	T-23	√				
58-00-12 <sup>Q</sup>	7	T-37	√	√,D	√		
51L-01-1A <sup>A</sup>	9						
51L-01-1B <sup>N</sup>	9						
51L-01-5A <sup>A</sup>	9						
51L-01-5B <sup>A</sup>	9						
51L-01-6 <sup>A</sup>	9						
51L-01-7 <sup>A</sup>	9						
51A-01-11 <sup>A</sup>	9						
OW3-225 <sup>S</sup>	8	T-48	√				
Hydraugers							
37-01-01	14						
51-01-01	9	T-49	√				
51-01-02	9	T-49	√				
51-01-03	9	T-49	√				
51-01-03A	9						
51-01-04	9	T-49	√				
77-02-05	5						
77-03-2	5						
77-03-3	5						
77-04-11	5						
Slope Stability and Slope Indicator Facilities							
SSW19-63	7						
SSW17-130	5						√
SSW19-130	5						√
SSW20-130	5						√
SSW21-130	5						√

**Table 2 (Cont'd)**  
**Groundwater Sampling Locations and Analytical Methods**  
**2nd Quarter FY 2008**

		VOCs - 8260				TPH-D 8015	Tritium 906
Location	Area	Page #	Jan	Feb	Mar		
Temporary Groundwater Sampling Points							
SB5A-98-1	10	T-39	√		√		
SB7-97-1	2						
SB16-97-11	10	T-39			√		
SB16-98-1	10	T-39			√		
SB25A-96-3	10	T-39		√			
SB27-96-1	5	T-39	√	√	√		
SB31-02-1	5						√
SB31-02-2	5						√
SB31-02-4	5						
SB31-02-5	5						
SB31-02-6	5						√
SB31-02-7	5						
SB31-03-1	5						
SB31-03-2	5						
SB31-03-3	5						
SB31-03-4	5						
SB44-98-1	10	T-39			√		
SB51-98-1	9						
SB51-98-2	9						
SB51-98-4	9						
SB51-98-6	9						
SB51-98-8	9						
SB51-98-9	9						
SB51-04-1	9	T-24		√			
SB51L-98-1A	9	T-24			√		
SB52A-98-1	2						
SB53-96-3	2	T-39	√	√	√		
SB58-95-1	7						
SB58-95-2	7	T-39			√		
SB58-96-1	7	T-40	√		√		
SB58-96-2	7	T-40	√		√		
SB58-97-1	7	T-40	√		√		
SB58-97-2	7	T-40	√	√	√		
SB58-98-1	7	T-40			√		
SB58-98-6	7	T-40		√			
SB58-98-7	7						
SB58-01-2	7	T-40			√		
SB58-02-1	7						



**Table 2 (Cont'd)**  
**Groundwater Sampling Locations and Analytical Methods**  
**2nd Quarter FY 2008**


		VOCs - 8260				TPH-D 8015	Tritium 906
Location	Area	Page #	Jan	Feb	Mar		
Temporary Groundwater Sampling Points							
SB58-02-2	7	T-40			√		
SB64-98-8	9	T-24	√	√	√		
SB64-98-12	9	T-24		√			
SB64-98-13	9	T-24		√			
SB64-98-17	9	T-24	√	√	√		
SB64-99-4	9	T-24	√	√	√		
SB64-99-5	9	T-25	√	√	√		
SB64-99-6	9	T-25		√			
SB64-00-1	9	T-25	√	√	√		
SB64-00-2	9	T-25	√	√	√		
SB64-02-1A	9	T-25	√	√	√		
SB64-02-1B	9	T-26	√	√	√		
SB64-02-1C	9	T-26	√	√	√		
SB64-02-1D	9	T-26	√	√	√		
SB64-02-1E	9	T-26	√	√	√		
SB64-02-1F	9	T-27	√	√	√		
SB64-02-2A	9	T-27	√	√	√		
SB64-02-2B	9	T-27	√	√	√		
SB64-02-2C	9	T-27	√	√	√		
SB64-02-2D	9	T-28	√	√	√		
SB64-02-2E	9	T-28	√	√	√		
SB64-02-2F	9	T-28	√	√	√		
SB64-03-1A	9						
SB64-03-1B	9	T-28	√	√	√		
SB64-03-4	9						
SB64-03-5	9	T-29	√	√	√		
SB64-03-6	9	T-29	√	√	√		
SB64-03-7	9	T-29		√			
SB64-03-8	9	T-29		√			
SB64-03-12	9	T-29		√			
SB64-03-13	9	T-29		√			
SB64-05-4	9	T-29	√	√	√		
SB69-02-1A	3						
SB69-02-1B	3						
SB69A-99-1	3	T-47	√	√	√		√
SB69A-00-1	3	T-47		√			
SB71B-99-1	1						
SB71B-99-2	1						
SB71B-03-1	1	T-30	√	√	√		
SB71B-03-2	1	T-30	√	√	√		

**Table 2 (Cont'd)**  
**Groundwater Sampling Locations and Analytical Methods**  
**2nd Quarter FY 2008**

		VOCs - 8260				TPH-D 8015	Tritium 906
Location	Area	Page #	Jan	Feb	Mar		
Temporary Groundwater Sampling Points							
SB71B-04-1	1	T-30	√	√	√		
SB71B-04-3	1						
SB71H-98-1	1						
SB75-02-1	3	T-47		√			√
SB75A-02-1A	3						√
SB75A-02-1B	3						
SB77-02-1	5						
W76-97-3	4	T-47			√	√	
W76-97-4	4	T-47			√	√	
W76-97-5	4	T-47			√		
Other Locations							
MP7-99-1BR	2	T-45	√	√	√		
MP7-99-2BR	2	T-45	√	√	√		
Extraction/Injection Wells							
EW7-96-1	2	T-41	√	√	√		
EW7-96-2	2	T-41	√	√	√		
EW7-96-4R	2	T-41	√	√	√		
EW7-03-1	2	T-41	√	√	√		
EW7-03-2	2	T-41	√	√	√		
EW7-03-3	2	T-42	√	√	√		
EW7-06-1	2	T-42	√	√	√		
EW7C-04-2	2	T-42	√	√	√		
EW25A-02-1	10	T-42	√	√	√		
EW51-07-1	9	T-31	√		√		
EW51-07-2	9	T-31	√		√		
EW51A-06-1	9	T-31	√	√	√		
EW51B-07-1	9	T-31	√	√	√		
EW51B-07-2	9	T-31	√	√	√		
EW51L-06-1	9	T-32	√	√	√		
EW53-04-2	2	T-43	√	√	√		
EW58-98-1 <sup>T</sup>	7	T-43	√				
EW58-98-2 <sup>T</sup>	7	T-43	√				
EW58E-98-1	7	T-43	√		√		
EW58E-98-2	7	T-43	√		√		
EW58E-98-3	7	T-43	√		√		
EW58E-98-4	7	T-43	√		√		
EW58E-98-5	7	T-44	√		√		
EW58E-98-6	7	T-44	√		√		
EW58E-98-7	7	T-44	√		√		
EW58E-98-8	7	T-44	√		√		

**Table 2 (Cont'd)**  
**Groundwater Sampling Locations and Analytical Methods**  
**2nd Quarter FY 2008**

		VOCs - 8260				TPH-D 8015	Tritium 906
Location	Area	Page #	Jan	Feb	Mar		
Extraction/Injection Wells							
EW58-02-1 <sup>T</sup>	7	T-44	√	√	√		
EW58-07-1	7	T-44	√	√	√		
EW64-00-1 <sup>T</sup>	9	T-32	√	√	√		
EW64-03-1 <sup>T</sup>	9	T-32	√	√	√		
EW64-05-1 <sup>T</sup>	9	T-32	√	√	√		
EW64-06-1 <sup>T</sup>	9						

 = all compounds less than Quantitation Limit or for tritium less than Minimum Detectable Activity

Minimum required groundwater monitoring well sampling schedule for VOCs

<sup>A</sup> = Annual

<sup>N</sup> = No sampling

<sup>Q</sup> = Quarterly sampling

<sup>S</sup> = Semi-annual

<sup>T</sup> = Treatment system influent samples

D - each D represents one duplicate sample

OS = Offsite well

√ = each check represents one sample taken

Analytical Methods:

VOCs = Volatile Organic compounds, EPA Method 8260

TPH-D = TPH-Diesel, EPA Method 8015

PCBs = Polychlorinated Biphenyls, EPA Method 608

**Table 3**  
**Groundwater Elevations in LBNL Monitoring Wells**  
**2nd Quarter FY 2008**

Well Number	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet msl)		Change from Previous Quarter
				Current Quarter	Previous Quarter	
Bevalac Area						
46A-92-15	830.10	2/27	13.21	816.89	814.06	2.83
51-92-2	724.69	2/27	4.26	720.43	720.03	0.40
51-96-15	709.83	2/27	20.77	689.06	688.80	0.26
51-96-16	709.72	2/27	17.52	692.20	691.41	0.79
51-96-17	709.64	2/27	15.11	694.53	692.00	2.53
51-96-18	710.76	2/27	8.37	702.39	700.99	1.40
51-97-3	709.81	2/27	43.80	666.01	665.19	0.82
51-97-12	709.37	2/27	42.86	666.51	665.87	0.64
51-97-13	709.48	2/27	34.57	674.91	674.05	0.86
51-97-14	708.89	2/27	48.88	660.01	659.40	0.61
51-97-15	706.11	2/27	71.35	634.76	633.77	0.99
51-99-1	724.44	2/27	NM		714.29	
51-00-8	682.11	2/27	21.92	660.19	658.35	1.84
51-00-9	698.16	2/27	2.51	695.65	695.26	0.39
51-00-10	698.18	2/27	2.64	695.54	695.06	0.48
51A-01-11	709.74	2/27	12.75	696.99	688.07	8.92
51B-93-18A	709.95	2/27	8.17	701.78	700.93	0.85
51L-01-1A	710.04	2/28	6.22	703.82	702.51	1.31
51L-01-1B	710.04	2/28	8.10	701.94	697.80	4.14
51L-01-5A	709.96	2/27	NM		681.55	
51L-01-5B	709.94	2/27	NM		664.01	
51L-01-6	709.80	2/27	22.80	687.00	685.36	1.64
51L-01-7	709.76	2/27	30.50	679.26	670.23	9.03
56-98-2	709.76	2/27	15.36	694.40	691.77	2.63
63-98-18	709.99	2/27	17.57	692.42	686.99	5.43

Well Number	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet msl)		Change from Previous Quarter
				Current Quarter	Previous Quarter	
64-97-1	709.94	2/27	4.57	705.37	705.18	0.19
64-97-2	709.65	2/27	9.06	700.59	698.34	2.25
71-93-2	844.39	2/27	31.93	812.46	809.42	3.04
71-95-9	854.18	2/27	17.13	837.05	831.61	5.44
71B-98-13	832.33	2/27	9.82	822.51	815.87	6.64
71B-99-3R	840.13	2/27	NM		835.68	
MW90-3	820.60	2/27	40.71	779.89	778.08	1.81
MW90-4	746.15	2/27	5.39	740.76	738.34	2.42
MW90-5	745.75	2/27	15.13	730.62	726.65	3.97
MWP-1	630.65	2/27	42.97	587.68	587.23	0.45
Old Town Area						
5-93-10	914.90	2/27	16.21	898.69	894.46	4.23
6-92-17	891.20	2/27	11.05	880.15	879.94	0.21
6-93-4	881.60	2/27	46.07	835.53	837.44	-1.91
7-92-16	882.40	2/27	51.48	830.92	834.63	-3.71
7-92-19	884.80	2/27	14.22	870.58	865.49	5.09
7-94-3	882.88	2/27	NM		NM	
7-95-22	882.16	2/27	18.58	863.58	863.02	0.56
7-95-23	882.37	2/27	9.92	872.45	858.29	14.16
7-00-4	883.18	2/27	78.21	804.97	799.84	5.13
7B-95-21	883.63	2/27	13.10	870.53	857.70	12.83
7B-95-24	883.88	2/27	52.18	831.70	831.26	0.44
7B-95-25	882.03	2/27	16.92	865.11	863.47	1.64
16-94-13	892.50	2/27	11.13	881.37	874.70	6.67
16-95-3	901.52	2/27	14.54	886.98	885.71	1.27

**Table 3 (Cont'd)**  
**Groundwater Elevations in LBNL Monitoring Wells**  
**2nd Quarter FY 2008**

Well Number	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet msl)		Change from Previous Quarter
				Current Quarter	Previous Quarter	
Old Town Area						
25-94-12	937.59	2/27	30.93	906.66	902.96	3.70
25-95-5	932.88	2/27	NM			
25-95-26	935.81	2/27	38.41	897.40	894.42	2.98
25-95-27	859.83	2/27	30.55	829.28	827.64	1.64
25-98-10	934.42	2/27	43.50	890.92	873.42	17.50
25A-95-15	931.68	2/27	22.39	909.29	921.26	-11.97
25A-98-1	936.88	2/27	35.94	900.94	907.49	-6.55
25A-98-3	940.14	2/27	NM			
25A-98-7	942.71	2/27	12.18	930.53	928.89	1.64
25A-99-2	940.45	2/27	11.36	929.09	921.85	7.24
26-92-11	936.19	2/27	11.02	925.17	916.44	8.73
27-92-20	881.10	2/27	44.55	836.55	835.00	1.55
37-92-18A	861.20	2/27	47.04	814.16	814.31	-0.15
46-92-9	805.30	2/28	73.40	731.90	729.41	2.49
46-93-12	807.57	2/28	7.49	800.08	800.04	0.04
46-96-10	790.35	2/28	32.38	757.97	756.86	1.11
51-94-15	771.17	2/27	32.30	738.87	737.13	1.74
51-96-3	766.44	2/27	8.61	757.83	753.05	4.78
52-93-14	900.03	2/27	33.44	866.59	863.23	3.36
52-95-2A	910.27	2/27	42.53	867.74	866.06	1.68
52-95-2B	910.23	2/27	49.12	861.11	858.60	2.51
52-98-9	910.86	2/27	49.29	861.57	859.12	2.45
52A-98-8A	913.56	2/27	29.21	884.35	881.94	2.41
52A-98-8B	913.51	2/27	47.56	865.95	862.86	3.09
52B-95-13	887.40	2/27	15.03	872.37	867.18	5.19

Well Number	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet msl)		Change from Previous Quarter
				Current Quarter	Previous Quarter	
53-92-21-130	886.97	2/27	67.89	819.08	819.10	-0.02
53-92-21-147	886.99	2/27	66.92	820.07	820.05	0.02
53-92-21-167	886.97	2/27	68.04	818.93	818.66	0.27
53-92-21-193	886.98	2/27	80.72	806.26	806.04	0.22
53-93-9	900.68	2/27	57.45	843.23	841.49	1.74
53-93-16-42'	887.45	2/27	33.41	854.04	851.43	2.61
53-93-16-69'	887.40	2/27	NM		825.62	
53-93-17	902.62	2/27	60.88	841.74	839.66	2.08
53-95-12	867.45	2/27	30.84	836.61	835.58	1.03
53-96-1	887.64	2/27	58.11	829.53	832.79	-3.26
58-93-3	830.06	2/28	6.11	823.95	824.29	-0.34
58-95-11	831.62	2/28	0.10	831.52	831.32	0.20
58-95-18	788.61	2/28	8.54	780.07	778.71	1.36
58-95-19	834.33	2/28	16.85	817.48	816.92	0.56
58-95-20	818.81	2/28	15.11	803.70	801.74	1.96
58-96-11	848.23	2/28	31.85	816.38	816.46	-0.08
58-00-12	860.62	2/28	NM			
58A-94-14	821.73	2/28	22.84	798.89	798.61	0.28
MW90-2	880.78	2/27	20.96	859.82	859.66	0.16
MW91-8	887.02	2/27	48.10	838.92	836.60	2.32
MW91-9	915.67	2/27	18.42	897.25	893.17	4.08
MWP-4	831.56	2/27	46.61	784.95	785.04	-0.09
MWP-5	852.37	2/27	96.42	755.95	756.15	-0.20
MWP-6	845.44	2/27	24.36	821.08	818.31	2.77
MWP-8	872.34	2/27	25.09	847.25	845.31	1.94

**Table 3 (Cont'd)**  
**Groundwater Elevations in LBNL Monitoring Wells**  
**2nd Quarter FY 2008**

Well Number	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet msl)		Change from Previous Quarter
				Current Quarter	Previous Quarter	
Support Services						
31-97-17	746.15	2/28	18.93	727.22	725.16	2.06
31-97-18	747.80	2/28	21.13	726.67	724.60	2.07
31-98-17	693.47	2/28	10.84	682.63	680.93	1.70
61-92-12	843.90	2/28	87.21	756.69	755.04	1.65
69-97-8	975.75	2/27	41.81	933.94	933.40	0.54
69-97-21	1003.40	2/27	28.09	975.31	971.58	3.73
69A-92-22	977.06	2/27	23.51	953.55	952.55	1.00
75-96-20	979.07	2/27	10.01	969.06	966.62	2.44
75-97-5	963.73	2/27	44.96	918.77	907.99	10.78
75-97-6	967.89	2/27	56.83	911.06	911.47	-0.41
75-97-7	970.70	2/27	61.75	908.95	913.94	-4.99
75-98-14	977.94	2/27	12.54	965.40	960.53	4.87
75-98-15	977.97	2/27	16.93	961.04	961.05	-0.01
75-99-6	979.94	2/27	8.66	971.28	966.99	4.29
75-99-7	977.92	2/27	11.11	966.81	965.67	1.14
75-99-8	979.34	2/27	9.32	970.02	968.10	1.92
75A-00-7	978.32	2/27	110.85	867.47	858.10	9.37
75B-92-24	956.90	2/27	36.26	920.64	916.98	3.66
MW76-1	923.70	2/27	18.49	905.21	900.83	4.38
76-93-6	948.61	2/27	14.39	934.22	927.46	6.76
76-98-21	923.20	2/27	18.44	904.76	897.65	7.11
76-98-22	904.57	2/27	11.95	892.62	887.73	4.89
77-92-10	879.11	2/28	22.14	856.97	846.37	10.60

NM = Not measured

Well Number	Top of Casing Elevation (feet)	Date	Depth to Water (feet)	Groundwater Elevation (feet msl)		Change from Previous Quarter
				Current Quarter	Previous Quarter	
77-94-5	878.96	2/28	32.72	846.24	842.14	
77-94-6	876.76	2/28	48.83	827.93	823.47	4.46
77-97-9	888.69	2/28	22.16	866.53	863.96	2.57
77-97-11	814.67	2/28	31.53	783.14	780.57	2.57
78-97-20	949.54	2/27	16.33	933.21	928.49	4.72
MW91-1	877.98	2/28	23.03	854.95	853.91	1.04
MW91-2	877.27	2/28	46.82	830.45	834.02	-3.57
MW91-4	978.55	2/27	83.08	895.47	880.96	14.51
MW91-6	975.22	2/27	27.34	947.88	944.05	3.83
MWP-9	818.83	2/28	30.19	788.64	785.41	3.23
MWP-10	809.74	2/28	51.49	758.25	756.65	1.60
<b>Outlying Areas</b>						
62-92-26	773.70	2/28	45.23	728.47	729.30	-0.83
62-92-27	769.90	2/28	30.23	739.67	731.92	7.75
74-92-13	834.90	2/28	17.98	816.92	813.88	3.04
74-94-7	819.82	2/28	13.22	806.60	804.56	2.04
74-94-8	815.74	2/28	19.74	796.00	794.51	1.49
74-95-6	838.66	2/28	22.85	815.81	812.66	3.15
83-92-14	830.09	2/28	13.77	816.32	816.27	0.05
88-93-11A	537.35	2/27	61.51	475.84	476.12	-0.28
CD-92-28	486.29	2/28	16.53	469.76	468.45	1.31
MWP-2	710.33	2/27	56.94	653.39	653.88	-0.49
OW3-225	570.00	2/28	61.81	508.19	508.41	-0.22

**Table 4**  
**LBNL Monitoring Well Construction Details**

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Geologic Unit
MW90-2	2	7/19/1990		253.21	2637.82	880.78	2	25-35	Orinda
MW90-3	1	7/23/1990		1134.60	2460.40	820.60	2	48-58	Colluvium
MW90-4	1	12/1/1990		1103.90	2289.30	746.15	2	15-25	Colluvium
MW90-5	1	12/1/1990		1067.30	2293.70	745.75	4	15-25	Colluvium
MW90-6	1	12/1/1990	9/17/2002	1046.70	2291.60	746.00	2	15-25	Colluvium / Orinda
MW91-1	5	5/30/1991		-69.08	4050.61	877.98	2	44-54	Orinda
MW91-2	5	5/31/1991		-65.83	3666.47	877.27	2	40-50	Orinda
MW91-3	3	6/4/1991	9/21/2005	566.47	3807.95	981.69	2	53-63	Orinda
MW91-4	3	12/2/1991		476.81	3756.52	978.55	2	115-145	Orinda
MW91-5	3	6/3/1991	9/21/2005	490.76	3815.48	978.28	2	30-40	Orinda
MW91-6	3	11/17/1991		382.38	3879.71	975.22	4	34-44	Orinda
MW91-8	2	1/9/1992		465.11	2662.97	887.02	2	65.5-75.5	Moraga
MW91-9	10	12/9/1991		246.20	2896.17	915.67	2	28.5-38.5	Orinda
MWP-1	15	6/6/1991		1177.15	1674.81	630.65	2	39-49	Colluvium
MWP-2	8	12/6/1991		219.37	1693.34	710.33	2	66-76	Great Valley
MWP-4	14	6/19/1991		-36.08	2169.41	831.56	2	43-53	Great Valley
MWP-5	14	6/25/1991		-262.06	2213.41	852.37	2	98-108	Great Valley
MWP-6	14	6/9/1991		-256.79	2476.38	845.44	2	27-37	Great Valley
MWP-7	14	6/10/1991		-206.48	2638.97	854.01	2	25-35	Orinda / Great Valley
MWP-8	10	6/14/1991		-292.68	2876.29	872.34	2	25-35	Orinda
MWP-9	5	6/18/1991		-196.07	3674.77	818.83	2	51-61	Great Valley
MWP-10	5	6/8/1991		-246.37	3862.41	809.74	2	57-67	Great Valley
MW1-220	2	9/24/1988	9/26/2005	578.73	2751.09	901.64	4	83-93	Moraga
MW7-1	2	8/12/1988	8/19/2006	295.97	2681.13	884.13	4	8-18	
MW62-B1A	13	9/26/1987	9/20/2005	-987.16	4129.20	757.70	2	23-33	
MW62-B2	13	9/1/1986	9/7/2005	-984.02	4127.06	756.60	2	24-34	
MW76-1	4	8/9/1988		137.13	3366.07	923.70	4	20-30	
51-92-2	9	3/19/1992		660.30	2174.22	724.69	2	6.5-16.5	Orinda
88-92-4	6	3/18/1992	9/28/2005	931.05	1029.80	590.82	2	49-59	Great Valley
37-92-5	14	3/28/1992	12/9/2005	-125.20	2668.23	881.56	2	85-105	Great Valley

**Table 4 (Cont'd)**  
**LBNL Monitoring Well Construction Details**

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
37-92-6	14	2/23/1992	2/19/2007	-245.60	2649.39	854.15	2	29-39	Great Valley
70-92-7	8	3/8/1992	9/12/2005	403.84	1708.83	762.93	2	20.8-25.8	Great Valley
46-92-9	7	3/1/1992		612.25	2423.20	805.30	2	68.5-78.5	Orinda
77-92-10	5	3/3/1992		19.05	4092.31	879.11	2	48-68	Orinda
26-92-11	10	3/9/1992		165.02	3175.74	936.19	2	20.5-30.5	Orinda
61-92-12	5	2/28/1992		-356.90	3347.90	843.90	2	89-99	Orinda
74-92-13	11	4/15/1992		-355.80	5301.10	834.90	2	38.2-48.2	San Pablo (?)
83-92-14	11	2/22/1992		-354.70	5254.65	830.09	2	48-58	San Pablo (?)
46A-92-15	1	9/12/1992		1187.20	2539.10	830.10	2	29-39	Colluvium / Orinda
7-92-16	2	8/28/1992		181.20	2635.90	882.40	2	39-59	Moraga
6-92-17	14	8/27/1992		40.50	2729.10	891.20	2	24-39	Moraga/Orinda
37-92-18	14	8/31/1992	9/25/2002	-237.40	2723.80	860.30	2	19-29	Orinda
37-92-18A	14	9/14/1992		-240.60	2730.30	861.20	2	49-69	Great Valley
7-92-19	2	8/29/1992		299.60	2684.50	884.80	2	24-39	Moraga/Orinda
27-92-20	2	10/14/1992		544.10	2661.00	881.10	2	63.5-83.5	Moraga/Orinda
53-92-21-130'	2	10/92		358.33	2657.18	886.97	2	125-130	Orinda
53-92-21-147'	2	10/92		357.94	2657.11	886.99	2	142-147	Orinda
53-92-21-167'	2	10/92		358.07	2656.90	886.97	2	162-167	Orinda
53-92-21-193'	2	10/92		358.35	2656.90	886.98	2	188-193	Orinda
69A-92-22	3	1/22/1993		320.97	3951.1	977.06	2	44-64	Orinda
75-92-23	3	9/2/1992	9/26/2005	361.19	3826.89	972.10	6	29-49	Colluvium
75B-92-24	3	9/1/1992		218.40	3692.30	956.90	2	37-57	Orinda
76-92-25	4	9/13/1992	9/18/2002	181.90	3293.20	928.70	2	23.5-38	Orinda
62-92-26	13	9/3/1992		-1157.60	4402.30	773.70	2	47-57	Great Valley
62-92-27	13	9/4/1992		-1112.00	4157.10	769.90	2	56-66	Great Valley
CD-92-28	OS	10/26/1992		-1240.92	2435.51	486.29	2	45-55	Great Valley
71-93-1	1	9/9/1993	9/19/2005	1458.58	2562.60	872.39	2	43-63	Moraga/Orinda
71-93-2	1	9/8/1993		1352.87	2441.60	844.39	2	39-59	Moraga
58-93-3	7	5/17/1994		331.23	2515.06	830.06	2	14-24	Colluvium/Moraga
6-93-4	2	9/10/1993		229.92	2599.52	881.60	2	35-50	Artificial Fill/Moraga



**Table 4 (Cont'd)**  
**LBNL Monitoring Well Construction Details**

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
37-93-5	14	8/26/1993	9/18/2002	-230.96	2573.02	850.17	2	39-49	Great Valley
76-93-6	4	8/25/1993		252.62	3600.80	948.61	2	34-44	Orinda
76-93-7	4	8/28/1993	9/27/2005	141.90	3299.84	924.85	2	24-39	Orinda
77-93-8	5	8/23/1993	9/19/2005	-44.32	3554.55	879.01	2	16-26	Art Fill/Col/Orinda
53-93-9	2	9/9/1993		427.92	2732.45	900.68	2	68-88	Moraga/Orinda
5-93-10	10	9/10/1993		179.51	2873.28	914.90	2	22-37	Moraga/Orinda
88-93-11A	6	3/2/1994		956.00	864.20	537.35	2	55-65	Great Valley
46-93-12	7	9/7/1993		673.46	2530.88	807.57	2	8.5-13.5	Moraga/Orinda
88-93-13	6	11/1/1993	2/19/2007	671.81	980.85	581.50	2	118.5-138.5	Great Valley
52-93-14	10	12/9/1993		276.79	2842.59	900.03	2	24.5-39.5	Moraga/Orinda
25-93-15	10	11/8/1993	9/14/2005	-46.77	3057.62	936.44	2	55-75	Moraga/Orinda
53-93-16-42'	2	1/29/1994		356.87	2674.05	887.45	2	31.5-41.5	Moraga
53-93-16-69'	2	1/29/1994		356.74	2673.78	887.40	4	58.5-68.5	Moraga
53-93-17	2	11/2/1993		458.40	2707.41	902.62	2	60.5-75.5	Moraga
51B-93-18A	9	5/19/1994		1070.65	2174.99	709.95	2	23.5-43.5	Orinda
46A-93-19	1	1/15/1994	9/28/2005	1024.48	2439.82	809.77	2	44-64	Orinda
71-94-1	1	5/21/1994	9/16/2005	1381.17	2358.57	845.84	2	38.5-48.5	Moraga
7-94-3	2	5/13/1994		267	2705.26	882.88	2	22.5-42.5	Orinda
77-94-5	5	5/9/1994		-53.24	3604.82	878.96	2	43.5-63.5	Orinda
77-94-6	5	5/5/1994		-67.94	3722.2	876.76	2	40.5-60.5	Orinda
74-94-7	11	4/28/1994		-508.66	5233.24	819.82	2	33.5-43.5	San Pablo (?)
74-94-8	11	5/10/1994		-594.5	5343.25	815.74	2	20-30	Col/Alluv/San Pablo (?)
37-94-9	14	5/12/1994	9/9/2005	-228.55	2682.42	856.51	2	24-44	Orinda/Great Valley
52-94-10	10	10/17/1994	9/20/2005	465.38	2859.99	906.04	2	47-67	Moraga/Orinda
51-94-11	1	10/18/1994	9/16/2005	1194.70	2263.64	756.83	4	8-18	Moraga/Orinda
25-94-12	10	10/14/1994		24.60	3021.73	937.59	2	26-46	Moraga/Orinda
16-94-13	10	10/11/1994		253.46	2762.79	892.50	2	22-42	Orinda
58A-94-14	7	10/4/1994		424.85	2457.65	821.73	2	21-41	Moraga/Orinda
51-94-15	7	11/7/1994		625.97	2264.47	771.17	4	30-40	Orinda
46-94-16	9	11/7/1994	9/19/2002	906.27	2300.02	756.16	2		Orinda

**Table 4 (Cont'd)**  
**LBNL Monitoring Well Construction Details**

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
71-95-1	1	4/11/1995	9/17/2002	1479.30	2335.13	846.94	2		Moraga
52-95-2A	10	8/29/1995		372.05	2864.37	910.27	2	34.5-44.5	Moraga
52-95-2B	10	8/29/1995		372.19	2864.56	910.23	2	65-110	Moraga/Orinda
16-95-3	10	4/18/1995		45.73	2787.74	901.52	2	23-30	Moraga/Orinda
25A-95-4	10	4/20/1995	9/19/2005	219.82	3033.97	938.35	2	28-48	Orinda
25-95-5	10	8/22/1995		-154.47	3091.60	932.88	2	69-94	Moraga/Orinda
74-95-6	11	7/14/1995		-354.67	5334.83	838.66	4	35-50	San Pablo (?)
83-95-7	11	7/14/1995	9/27/2005	-285.14	5246.70	840.75	4	36-46	San Pablo (?)
71-95-8	1	4/13/1995	9/16/2005	1298.86	2549.05	839.09	2	29-49	Orinda
71-95-9	1	4/14/1995		1249.27	2662.35	854.18	2	23.5-38.5	Artificial Fill/Colluvium
58-95-11	7	5/15/1995		296.22	2512.06	831.62	4	8.5-28.5	Moraga/Orinda
53-95-12	2	7/19/1995		360.87	2616.60	867.45	1	35-50	Moraga/Orinda
52B-95-13	10	7/21/1995		282.76	2732.91	887.40	1	16-31	Moraga/Orinda
6-95-14	2	8/15/1995		184.75	2631.08	881.43	4	22-67	Moraga/Orinda
25A-95-15	10	8/3/1995		148.22	2960.59	931.68	2	29-49	Orinda
62-95-16	13	8/4/1995	9/20/2005	-972.38	4088.45	741.06	4	18.5-33.5	Great Valley
51-95-17	9	2/12/1996	11/18/2002	913.86	2272.51	744.67	2	22-37	Orinda
58-95-18	7	8/9/1995		471.88	2401.55	788.61	4	7.5-17.5	Colluvium/Moraga/Orinda
58-95-19	7	9/13/1995		395.42	2562.55	834.33	1	20.5-30.5	Orinda
58-95-20	7	8/8/1995		494.26	2517.86	818.81	2	14.5-34.5	Moraga/Orinda
7B-95-21	2	8/11/1995		283.95	2679.19	883.63	4	13.5-38.5	Moraga/Orinda
7-95-22	2	8/10/1995		278.23	2659.08	882.16	4	13.5-38.5	Moraga
7-95-23	2	12/22/1995		285.15	2659.67	882.37	4	43-53	Moraga/Orinda
7B-95-24	2	12/18/1995		318.75	2655.51	883.88	4	53-73	Moraga/Orinda
7B-95-25	2	12/13/1995		274.27	2634.08	882.03	2	24-44	Moraga
25-95-26	10	4/29/1996		-54.01	3139.20	935.81	2	38-58	Moraga
25-95-27	10	12/20/1995		-327.09	3045.68	859.83	2	19.5-34.5	Orinda
53-96-1 (MW91-7)	2	4/19/1996		344.37	2682.54	887.64	4	67-82	Moraga/Orinda
4-96-2	10	4/17/1996	9/13/2005	-84.00	2889.05	912.64	2	45-65	Orinda
51-96-3	9	4/23/1996		546.48	2240.66	766.44	4		Colluvium

**Table 4 (Cont'd)**  
**LBNL Monitoring Well Construction Details**

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
88-96-4	6	4/26/1996	9/6/2005	968.53	1105.35	594.25	2	46.5-66.5	Great Valley
70A-96-5	8	4/15/1996	11/13/2002	370.50	1757.93	762.68	4	15-30	Great Valley
70A-96-6	8	4/16/1996	11/13/2002	334.24	1764.19	762.67	4	20-40	Great Valley
46-96-10	7	11/4/1996		886.68	2397.81	790.35	2	22-37	Moraga
58-96-11	2	6/11/1996		350.19	2588.64	848.23	2	15-40	Moraga/Orinda
58-96-12	7	12/4/1996	9/16/2002	295.46	2508.67	831.84	4	2-7	Fill/Moraga
70A-96-13	8	9/24/1996	9/7/2005	292.97	1511.04	711.87	2	111-141	Great Valley
70A-96-14	8	9/24/1996	9/8/2005	392.41	1498.87	716.64	2	112-142	Great Valley
51-96-15	9	9/26/1996		1004.38	2109.8	709.83	2	20-40	Orinda
51-96-16	9	9/25/1996		1054.3	2095.66	709.72	2	10-30	Artificial Fill
51-96-17	9	9/25/1996		1054.56	2093.45	709.64	2	35-55	Orinda
51-96-18	9	9/27/1996		1126.37	2170.13	710.76	2	6-16	Orinda
51-96-19	9	9/27/1996	9/12/2005	1066.52	2184.14	709.40	2	5-15	Artificial Fill
75-96-20	3	2/13/1997		487.72	3762.28	979.07	2	24.5-49.5	Orinda ?
64-97-1	9	5/20/1997		1194.82	2167.79	709.94	2	4.5-24.5	Orinda
64-97-2	9	5/20/1997		1142.40	2085.16	709.65	2	9-29	Orinda
51-97-3	9	6/3/1997		1102.96	1902.48	709.81	2	54.5-74.5	Artificial Fill
51-97-4	9	6/25/1997	9/15/2005	1101.16	1902.01	709.66	2	89-104	Orinda
75-97-5	3	7/19/1997		232.73	3768.01	963.73	2	39-69	Orinda
75-97-6	3	5/22/1997		262.75	3819.22	967.89	4	53.5-73.5	Orinda
75-97-7	3	6/9/1997		253.44	3870.26	970.70	2	58.5-78.5	Orinda
69-97-8	3	9/13/1997		255.05	3921.16	975.75	2.25	50-70	Colluvium/Orinda
77-97-9	5	6/4/1997		76.53	3753.30	888.69	2	19-49	Colluvium/Orinda
77-97-10	5	5/21/1997	9/18/2002	-91.93	3871.35	877.73	2	32-52	Colluvium/Orinda
77-97-11	5	6/24/1997		-205.88	3749.71	814.67	2	22.5-42.5	Colluvium/Orinda
51-97-12	9	9/2/1997		1109.18	1904.55	709.37	2	29.5-49.5	Artificial Fill
51-97-13	9	9/11/1997		1196.36	1901.98	709.48	2	48-68	Artificial Fill
51-97-14	9	9/10/1997		1020.26	1883.14	708.89	2	44-64	Artificial Fill
51-97-15	9	9/12/1997		1155.18	1803.16	706.11	2	88-108	Artificial Fill
51-97-16	9	9/9/1997	3/17/2005	875.26	1917.64	709.58	2	14.5-34.5	Art. Fill/Great Valley

**Table 4 (Cont'd)**  
**LBNL Monitoring Well Construction Details**

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
31-97-17	5	9/5/1997		-459.67	3738.68	746.15	2	21.5-31.5	Colluvium
31-97-18	5	9/4/1997		-480.52	3779.68	747.80	2	39.5-59.5	Colluvium/Great Valley
78-97-20	4	10/10/1997		298.21	3429.47	949.54	2	14-34	Orinda
69-97-21	3	9/23/1997		471.24	3985.45	1003.4	2	18.5-38.5	Orinda
76-97-22	4	10/17/1997	9/25/2002	165.14	3545.94	937.91	2	25-45	Colluvium/Orinda
71-97-23	1	9/8/1997	9/15/2005	1221.62	2469.83	844.45	2	39.5-59.5	Artificial Fill/Orinda
25A-98-1	10	4/23/1998		99.79	2986.86	936.88	2	30-50	Orinda
56-98-2	9	4/24/1998		1264.86	1887.99	709.76	2	35-55	Artificial Fill/Orinda
25A-98-3	10	4/21/1998		175.76	3027.87	940.14	2	25-45	Orinda
64-98-4	9	4/20/1998	3/15/2000	1133.05	2172.54	711.12	2	5-15	Orinda
51-98-5	9	5/8/1998	8/10/2006	951.70	1922.10	709.63	2	30-50	Colluvium
25A-98-6	10	10/2/1998	8/10/2006	134.29	3091.47	939.90	2	20.5-40.5	Moraga/Orinda
25A-98-7	10	9/1/1998		140.51	3001.67	942.71	2	19-34	Orinda
52A-98-8A	10	9/16/1998		339.79	2883.49	913.56	2	23-33	Colluvium
52A-98-8B	10	9/17/1998		339.86	2883.73	913.51	2	60-80	Moraga
52-98-9	10	9/11/1998		377.44	2864.09	910.86	2	60-80	Moraga
25-98-10	10	9/12/1998		-105.23	3087.97	934.42	2	70-90	Moraga/Orinda
46A-98-11	1	11/3/1998	11/16/2002	1049.68	2422.42	813.66	2	54-74	Orinda
71B-98-13	1	9/23/1998		1202.90	2583.97	832.33	2	15-30	Artificial Fill/Orinda
75-98-14	3	9/17/1998		436.14	3711.28	977.94	2	20-35	Orinda
75-98-15	3	9/21/1998		479.95	3640.78	977.97	2	20-35	Orinda
75-98-16	3	10/12/1998	9/16/2002	603.26	3451.27	1074.19	2	69-89	Orinda
31-98-17	5	9/14/1998		-719.39	3709.06	693.47	2	50-60	Colluvium
63-98-18	15	9/15/1998		1352.18	1819.94	709.99	2	20-35	Artificial Fill
64-98-19	9	2/1/1999	3/15/2000	1130.56	2178.51	711.11	2	21-26	Orinda
64-98-20	9	4/30/1999	8/2000	1133.29	2180.09	710.98	2	9.5-14.5	Orinda
76-98-21	4	9/25/1998		137.79	3352.42	923.20	2	15-35	Orinda
76-98-22	4	12/18/1998		72.85	3375.83	904.57	2	19-39	Orinda
51-99-1	9	5/1/1999		679.33	1978.83	724.44	2	25-35	Great Valley
25A-99-2	10	5/1/1999		137.70	3037.07	940.45	2	20-30	Moraga/Orinda

**Table 4 (Cont'd)**  
**LBNL Monitoring Well Construction Details**

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
71B-99-3	1	7/6/1999	10/2000	1179.35	2637.78	843.21	2	20-30	Orinda
71B-99-3R	1	4/5/2001		1178.62	2629.15	840.13	4	24-34	Orinda
75-99-4	3	7/20/1999	8/10/2006	462.42	3665.77	977.90	2	19.5-34.5	Orinda
25A-99-5	10	7/19/1999	9/23/2005	166.42	3062.06	940.16	2	24-44	Orinda
75-99-6	3	11/19/1999		519.69	3687.82	979.94	2	15.5-25.5	Orinda
75-99-7	3	11/19/1999		463.30	3749.60	977.92	2	14-24	Artificial Fill/Orinda
75-99-8	3	12/6/1999		502.05	3669.34	979.34	2	20-30	Orinda
51-00-1	9	2/5/2000	9/7/2005	690.86	2162.65	725.28	2	20-25	Orinda
71B-00-2	1	3/20/2000	8/10/2006	1197.37	2587.90	832.41	2	45-60	Orinda
58A-00-3	7	5/17/2000	8/10/2006	415.38	2454.06	822.54	2	69-84	Orinda
7-00-4	2	5/17/2000		294.69	2658.33	883.18	2	84-99	Orinda
25A-00-5	10	5/17/2000	8/10/2006	139.64	2965.28	933.12	2	68-83	Orinda
52A-00-6	10	5/17/2000	8/11/2006	321.30	2911.46	917.34	2	105-120	Orinda
75A-00-7	3	1/5/2001		469.39	3758.40	978.32	2	115-145	Orinda
51-00-8	9	9/7/2000		1095.81	1806.71	682.11	2	20-40	Artificial Fill/Orinda
51-00-9	9	10/2/2000		1008.33	2177.85	698.16	2	5-10	Orinda
51-00-10	9	10/3/2000		988.59	2177.76	698.18	2	5-10	Orinda
69A-00-11	3	9/8/2000	9/19/2005	321.66	3943.67	977.05	2	19.5-39.5	Orinda
58-00-12	7	10/5/2000		326.88	2607.24	860.62	2	38-59	Orinda/Mixed Unit
51L-01-1A	9	7/23/2001		864.13	1878.36	710.04	2	4-9	Artificial Fill/Colluvium
51L-01-1B	9	7/23/2001		863.88	1878.37	710.04	2	15-30	Great Valley
51L-01-3	9	12/20/2001	9/2006	896.88	1893.03	709.54	2	34.5-49.5	Great Valley
51L-01-4	9	7/23/2001	9/2006	915.93	1884.49	709.87	2	30-45	Great Valley
51L-01-5A	9	7/16/2001		936.13	1908.95	709.96	2	18-33	Artificial Fill/Colluvium
51L-01-5B	9	7/16/2001		936.09	1908.62	709.94	2	48.5-63.5	Great Valley
51L-01-6	9	7/18/2001		911.02	1931.44	709.80	2	20-30	Artificial Fill/Colluvium
51L-01-7	9	7/17/2001		906.47	1931.41	709.76	2	60-75	Great Valley
51A-01-10A	9	10/3/2001	9/14/2005	814.28	1900.05	709.78	2	15-30	Great Valley
51A-01-11	9	9/28/2001		841.85	1941.48	709.74	2	30-45	Great Valley
51L-02-1	9	1/11/2002	8/25/2006	921.03	1871.48	709.74	2	20-30	Artificial Fill/Colluvium/Great Valley

**Table 4 (Cont'd)**  
**LBNL Monitoring Well Construction Details**

Location ID	Area	Completion Date	Abandonment Date	UC Grid North Coordinate	UC Grid East Coordinate	Top of Casing Elevation (ft above MSL)	Casing Diameter (inches)	Approximate Screened Interval (ft below TOC)	Screened Formation Name
Soil Gas Wells									
74-95-6	11	7/14/1995					1	15-20	San Pablo (?)
83-95-7	11	7/14/1995					1	25-30	San Pablo (?)
71-95-10	1	4/17/1995	9/15/2005				3/4"	9.9-10.4	Artificial Fill
							3/4"	20.1-20.6	Artificial Fill
							3/4"	32.7-33.2	Artificial Fill

Artificial Fill: soils placed during grading activities

Colluvium: Quaternary soil/colluvium

Alluvium: Quaternary alluvium

San Pablo (?): shallow marine sandstones tentatively assigned to the San Pablo Group

Orinda: Orinda Formation sediments

Great Valley: Upper Cretaceous sedimentary rocks

Moraga: Moraga Formation volcanics



**Table 5-1**  
**Bevalac Area Groundwater Monitoring Well Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

		51-96-15	51-96-16			51-96-17			51-96-18			51-97-3	51-97-12	51-97-13	51-97-15
Constituent	MCL	Feb-08	Jan-08	Feb-08	Mar-08*	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Feb-08	Feb-08	Feb-08	Jan-08
Aromatic or Non-Halogenated Hydrocarbons															
Benzene	1	<1	1.5	1.9	2.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5		<5	<5		<5	<5		<5	<5	<5	<5
Naphthalene		<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons			1.5	1.9	2.2										
Halogenated Hydrocarbons															
Bromodichloromethane	80	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane		<30	<30	<30	1.1	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<0.5	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	1.3	1.4	2.3	<1	<1	<1	33.6	24.3	27.4	12.7	8.1	6.5	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	1	<1	<1	<1	6.7	4.4	6.4	26.9	10.7	4.1	<1
cis-1,2-Dichloroethene	6	2.9	27.6	31.7	51	3.3	2.7	1.4	1.9	1.6	1.9	37.4	67	2.7	<1
trans-1,2-Dichloroethene	10	<1	14	14.3	18	1.9	<1	<1	<1	<1	<1	2.2	8.2	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	5.9	<1	<1	<0.5	<1	<1	<1	63.3	42.8	72.2	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	6.6	6.2	7.5	11	<1	<1	<1	26.5	23.4	30	5.3	2.8	<1	<1
Freon-11	150	<2	<2	<2	<0.5	<2	<2		<2	<2		<2	<2	<2	<2
Freon-113	1200	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1	<1		<1	<1		<1	<1		<1	<1	<1	<1
Vinyl Chloride	0.5	<1	8.6	9.8	12	1.1	<1	<1	<1	<1	<1	5.6	3.2	2.2	<1
Total Halogenated Hydrocarbons		15.4	57.7	64.7	96.4	6.3	2.7	1.4	132	96.5	137.9	90.1	100	15.5	
Total Concentration of VOCs		15.4	59.2	66.6	161.6≈	6.3	2.7	1.4	132	96.5	137.9	90.1	100	15.5	

**Table 5-1 Cont'd)**  
**Bevalac Area Groundwater Monitoring Well Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
 (concentrations in µg/L)

Constituent	MCL	51-00-8	51-00-9	51-00-10	51B-93-18A		64-97-2	71-95-9	71B-98-13	71B-99-3R			MW90-3	MW90-5	MWP-1
		Feb-08	Jan-08	Jan-08	Feb-08	(D)*	Feb-08	Feb-08	Jan-08	Jan-08	Feb-08	Mar-08	Feb-08	Jan-08	Jan-08
Aromatic or Non-Halogenated Hydrocarbons															
Benzene	1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5	<5		<5	<5	<5	<5	<5		<5	<5	<5
Naphthalene		<2	<2	<2	<2		<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1		<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons															
Halogenated Hydrocarbons															
Bromodichloromethane	80	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane		<30	<30	<30	<30	<0.5	<30	<30	<30	<30	<30	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<3	<0.5	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	3.9	2.3	4.3	8.5	9.4	5.3	<1	<1	<1	<1	<1	1.1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	0.9	3.5	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	3.5	31.6	19.2	22.6	23	<1	<1	2.3	<1	8	9.9	7.4	1.2	<1
trans-1,2-Dichloroethene	10	<1	1.9	<1	2.1	2.4	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	<1	<0.5	1.7	<1	<1	<1	<1	13.8	6.5	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<1	1.3	<1	<1	<0.5	3.3	<1	<1	<1	<1	7.1	22.2	<1	<1
Freon-11	150	<2	<2	<2	<2	<0.5	<2	<2	<2	<2	<2		<2	<2	<2
Freon-113	1200	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1	<1	<1		<1	<1	<1	<1	<1		<1	<1	<1
Vinyl Chloride	0.5	<1	1.5	<1	4	4.7	<1	<1	1.4	<1	1.1	2.9	<1	<1	<1
Total Halogenated Hydrocarbons		7.4	38.6	23.5	37.2	40.4	13.8		3.7		16.2	48.8	22.1	1.2	
Total Concentration of VOCs		7.4	38.6	23.5	37.2	40.4	13.8		3.7		16.2	48.8	22.1	1.2	

MCL: Maximum contaminant level for drinking water (determined by California DHS)  
 All analyses by LBNL EML unless otherwise noted  
 \* = Analysis by BC Laboratories

< = Less than Quantitation Limit  
 = Compound not included in analysis

(D) = Duplicate sample

≈: Total concentration include other chemicals, detail shown on Table 10.

**Table 5-2**  
**Bevalac Area Temporary Groundwater Sampling Point Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	SB51-04-1	SB51L-98-1A	SB64-98-8			SB64-98-12	SB64-98-13	SB64-98-17			SB64-99-4		
		Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Feb-08	Feb-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons														
Benzene	1	<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
n-Butylbenzene		<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
sec-Butylbenzene		<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
ter-Butylbenzene		<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Chlorobenzene		<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Ethylbenzene	300	<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Isopropylbenzene		<2	<2	<10	<10	<10	<2	<2	<2	<2	<2	<10	<10	<10
p-Isopropyltoluene		<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Methyl tert-Butyl Ether	13	<5	<5	<25	<25	<25	<5	<5	<5	<5	<5	<25	<25	<25
Naphthalene		<2	<2	<10	<10	<10	<2	<2	<2	<2	<2	<10	<10	<10
n-Propylbenzene		<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Toluene	150	<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Xylenes, total	1750	<2	<2	<10	<10	<10	<2	<2	<2	<2	<2	<10	<10	<10
Total Aromatic Hydrocarbons														
Halogenated Non-Aromatic Hydrocarbons														
Bromodichloromethane	80	<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Bromomethane	80	<10	<10	<50	<50	<50	<10	<10	<10	<10	<10	<50	<50	<50
Carbon Tetrachloride	0.5	<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Chloroethane		<30	<30	<150	<150	<150	<30	<30	<30	<30	<30	<150	<150	<150
Chloroform	80	<3	<3	<15	<15	<15	<3	<3	<3	<3	<3	<15	<15	<15
Chloromethane		<10	<10	<50	<50	<50	<10	<10	<10	<10	<10	<50	<50	<50
1,1-Dichloroethane	5	<1	7.4	156	141	69.1	54.7	31.8	56.5	47.4	42.6	506	363	353
1,2-Dichloroethane	0.5	<2	<2	<10	<10	<10	<2	<2	<2	<2	<2	<10	<10	<10
1,1-Dichloroethene	6	<1	<1	31.6	28.2	8.9	10.1	5	6.6	5	4.4	68.7	41.5	44.6
cis-1,2-Dichloroethene	6	<1	78.1	6.1	5.3	<5	13.1	<1	1.8	1.3	1.2	15	13.9	14.9
trans-1,2-Dichloroethene	10	<1	10.5	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
1,2-Dichloropropane	5	<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Methylene Chloride	5	<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
1,1,1,2-Tetrachloroethane		<2	<2	<10	<10	<10	<2	<2	<2	<2	<2	<10	<10	<10
1,1,2,2-Tetrachloroethane	1	<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Tetrachloroethene	5	<1	3.6	39.9	42.5	10.9	4.6	1.5	<1	<1	<1	<5	<5	<5
1,1,1-Trichloroethane	200	<1	<1	<5	<5	<5	<1	1.6	<1	<1	<1	<5	<5	<5
1,1,2-Trichloroethane	5	<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Trichloroethene	5	<1	66.8	74.6	71.1	31.4	36	28	2.9	2.1	1.6	32.6	34.8	32.5
Freon-113	1200	<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Freon-123A		<1	<1	<5	<5	<5	<1	<1	<1	<1	<1	<5	<5	<5
Vinyl Chloride	0.5	<1	<1	<5	<5	<5	1.5	<1	2.5	<1	<1	6.9	12.9	8
Total Halogenated Hydrocarbons			166.4	308.2	288.1	120.3	120	67.9	70.3	55.8	49.8	629.2	466.1	453
Total Concentration of VOCs			166.4	308.2	288.1	120.3	120	67.9	70.3	55.8	49.8	629.2	466.1	453

**Table 5-2 (Cont'd)**  
**Bevalac Area Temporary Groundwater Sampling Point Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	SB64-99-5			SB64-99-6	SB64-00-1			SB64-00-2			SB64-02-1A		
		Jan-08	Feb-08	Mar-08	Feb-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons														
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<200	<200	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
Methyl tert-Butyl Ether	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<500	<500	
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<200	<200	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<200	<200	<2
Total Aromatic Hydrocarbons														
Halogenated Non-Aromatic Hydrocarbons														
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
Bromomethane	80	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1000	<1000	<10
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
Chloroethane		<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<3000	<3000	<30
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<300	<300	<3
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1000	<1000	<10
1,1-Dichloroethane	5	47.1	69.4	50.5	3.7	79.5	150	137	31	26.8	26.8	2,090	2,170	1,160
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<200	<200	17.2
1,1-Dichloroethene	6	19.5	34.3	32.6	1.8	8.2	14.2	5.8	144	127	112	285	367	123
cis-1,2-Dichloroethene	6	<1	1.4	<1	<1	4.6	7.6	8.7	1.7	1.5	1.3	<100	<100	34.8
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<200	<200	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	3
Tetrachloroethene	5	2.0	3.6	3.4	<1	1	1	<1	17	17	14.9	<100	194	53
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	4.6
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	2.9
Trichloroethene	5	10	13.1	13.3	1.6	12.8	19.8	20.1	48.4	40.3	43.7	360	468	181
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	<1
Freon-123A		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<100	<100	
Vinyl Chloride	0.5	<1	<1	<1	<1	2.4	<1	<1	<1	<1	<1	141	<100	1.4
Total Halogenated Hydrocarbon		78.6	121.8	99.8	7.1	108.5	192.6	171.6	242.1	212.6	198.7	2,876	3,199	1,580.9
Total Concentration of VOCs		78.6	121.8	99.8	7.1	108.5	192.6	171.6	242.1	212.6	198.7	2,876	3,199	1,581

**Table 5-2 (Cont'd)**  
**Bevalac Area Temporary Groundwater Sampling Point Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	SB64-02-1B			SB64-02-1C			SB64-02-1D			SB64-02-1E		
		Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<20	<20	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<50	<50		<50	<50		<5	<5		<5	<5	
Naphthalene		<20	<20	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<10	<10	1.4	<10	<10	1	<1	1.6	1	2	2.3	2
Xylenes, total	1750	<20	<20	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons				1.4			1		1.6	1	2	2.3	2
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Bromomethane	80	<100	<100	<10	<100	<100	<10	<10	<10	<10	<10	<10	<10
Carbon Tetrachloride	0.5	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Chloroethane		<300	<300	<30	<300	<300	<30	<30	<30	<30	<30	<30	<30
Chloroform	80	<30	<30	<3	<30	<30	<3	<3	<3	<3	<3	<3	<3
Chloromethane		<100	<100	<10	<100	<100	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	5	439	274	187	968	890	873	116	205	119	64.9	107	63.2
1,2-Dichloroethane	0.5	<20	<20	<2	<20	<20	4.9	<2	2.1	<2	<2	<2	<2
1,1-Dichloroethene	6	73.3	71.6	55.3	107	93.7	92.2	23.7	40.9	23.8	18.7	29	16.9
cis-1,2-Dichloroethene	6	109	116	76.3	113	115	82.4	28.4	77.6	34	23.7	43.3	25.6
trans-1,2-Dichloroethene	10	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<20	<20	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<10	<10	6.6	<10	<10	2.5	3.0	3.0	2.2	2.6	4.4	2.1
1,1,1-Trichloroethane	200	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	48.1	44.0	47.2	16.0	22.3	12.2	16.3	22.2	12.6	16.5	27.1	12.7
Freon-113	1200	<10	<10	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<10	<10		<10	<10		<1	<1		<1	<1	
Vinyl Chloride	0.5	81.5	38.8	12.5	45.3	42.8	33.7	17.9	33.1	13.0	11.3	15.3	9
Total Halogenated Hydrocarbon		750.9	544.4	384.9	1,249.3	1,163.8	1,100.9	205.3	383.9	204.6	137.7	226.1	129.5
Total Concentration of VOCs		750.9	544.4	386.3	1,249	1,164	1,102	205.3	385.5	205.6	139.7	228.4	131.5

**Table 5-2 (Cont'd)**  
**Bevalac Area Temporary Groundwater Sampling Point Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	SB64-02-1F			SB64-02-2A			SB64-02-2B			SB64-02-2C		
		Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5		<5	<5		<5	<50		<5	<5	
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Toluene	150	3.7	3.1	3.2	<1	<1	<1	<1	<10	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2
Total Aromatic Hydrocarbons		3.7	3.1	3.2									
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Bromomethane	80	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Chloroethane		<30	<30	<30	<30	<30	<30	<30	<300	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<30	<3	<3	<3	<3
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10
1,1-Dichloroethane	5	94.9	260	110	92.9	88.9	92	771	815	703	92.9	87.2	84.1
1,2-Dichloroethane	0.5	<2	3.1	<2	<2	<2	<2	4.2	<20	3.2	<2	<2	<2
1,1-Dichloroethene	6	17	51.8	16	21.6	19.6	17.8	80.6	90.8	67.9	34.8	35.7	30.7
cis-1,2-Dichloroethene	6	27.3	92.2	35	25.4	18.8	19.7	16.7	15	12.5	19.1	17.9	17.5
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Tetrachloroethene	5	2.5	5.3	2	11.1	10.3	10.7	1.4	<10	1.2	1.1	<1	1.1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Trichloroethene	5	17	50.9	15.1	52.8	56.8	53.7	18.1	19.2	16.5	8.2	6.7	6.9
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Freon-123A		<1	<1		<1	<1		<1	<10		<1	<1	
Vinyl Chloride	0.5	12.8	28.6	11.5	1.7	2.1	<1	<1	<10	<1	1.2	1.2	1.1
Total Halogenated Hydrocarbon		171.5	491.9	189.6	205.5	196.5	193.9	892	940	804.3	157.3	148.7	141.4
Total Concentration of VOCs		175.2	495	192.8	205.5	196.5	193.9	892	940	804.3	157.3	148.7	141.4

**Table 5-2 (Cont'd)**  
**Bevalac Area Temporary Groundwater Sampling Point Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	SB64-02-2D			SB64-02-2E			SB64-02-2F			SB64-03-1B		
		Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5		<5	<5		<5	<50		<5	<5	<5
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Toluene	150	1.1	1.5	<1	1.5	1.4	1.3	1.6	<10	1.5	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2
Total Aromatic Hydrocarbons		1.1	1.5		1.5	1.4	1.3	1.6		1.5			
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Bromomethane	80	<10	<10	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Chloroethane		<30	<30	<30	<30	<30	<30	<30	<300	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<30	<3	<3	<3	<3
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<100	<10	<10	<10	<10
1,1-Dichloroethane	5	105	103	93.2	73.5	77	60.5	540	588	468	109	17.7	50.2
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	2.5	<20	2.3	<2	<2	<2
1,1-Dichloroethene	6	31	30	24.9	22.8	26.7	18.0	45.5	46.2	36.1	10.2	1.6	4.1
cis-1,2-Dichloroethene	6	13.1	12	10.7	15.1	12.8	10.9	25	25.5	22.8	4.2	<1	2.4
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<20	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Tetrachloroethene	5	1.3	<1	1.2	1.1	1.7	<1	1.0	<10	2.4	1.2	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Trichloroethene	5	8	5.8	6.6	4.7	5	3.6	4.6	<10	8.4	20	4.2	7.1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<10	<1	<1	<1	<1
Freon-123A		<1	<1		<1	<1		<1	<10		<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	1.8	<10	2	<1	<1	<1
Total Halogenated Hydrocarbon		158.4	150.8	136.6	117.2	123.2	93	620.4	659.7	542	144.6	23.5	63.8
Total Concentration of VOCs		159.5	152.3	136.6	118.7	124.6	94.3	622	659.7	543.5	144.6	23.5	63.8



**Table 5-2 (Cont'd)**  
**Bevalac Area Temporary Groundwater Sampling Point Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	SB64-03-5			SB64-03-6			SB64-03-7	SB64-03-8	SB64-03-12	SB64-03-13	SB64-05-4		
		Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Feb-08	Feb-08	Feb-08	Feb-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons														
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5		<5	<5		<5	<5	<5	<5	<5	<5	<5
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons														
Halogenated Non-Aromatic Hydrocarbons														
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	80	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane		<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	5	2.6	1.6	1	<1	<1	<1	<1	1.4	3	7.2	<1	1.2	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	3.3	1.2	1.7	1.6	1.6	1.7	<1	<1	<1	1.1	<1	<1	1.1
cis-1,2-Dichloroethene	6	3.3	<1	<1	1.7	2.9	5.7	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane		1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	5.6	2.0	3.1	7.1	6.2	4.5	<1	<1	<1	<1	2.1	1.7	1.7
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	66.7	9.2	17.9	56.9	69	68.4	<1	<1	2.6	<1	1	1.5	2.1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1		<1	<1		<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbon		81.5	14	23.7	67.3	79.7	80.3		1.4	5.6	8.3	3.1	4.4	4.9
Total Concentration of VOCs		81.5	14	23.7	67.3	79.7	80.3		1.4	5.6	8.3	3.1	4.4	4.9

**Table 5-2 (Cont'd)**  
**Bevalac Area Temporary Groundwater Sampling Point Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	SB71B-03-1			SB71B-03-2			SB71B-04-1		
		Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons										
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5		<5	<5		<5	<5	
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons										
Halogenated Non-Aromatic Hydrocarbons										
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane	80	<10	<10	<10	<10	<10	<10	<10	<10	<10
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane		<30	<30	<30	<30	<30	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	50.6	132	86.4	4.6	24.5	22.4	10.1	7.5	6.6
trans-1,2-Dichloroethene	10	<1	1.2	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	1	<1	<1	1.4	1.3	29.9	19.1	17.7
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	16.8	52	38.4	1.2	6.8	6.9	12.7	9.5	7.2
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1		<1	<1		<1	<1	
Vinyl Chloride	0.5	11.3	35.6	11.6	<1	9.1	2.2	<1	<1	<1
Total Halogenated Hydrocarbons		78.7	221.8	136.4	5.8	41.8	32.8	52.7	36.1	31.5
Total Concentration of VOCs		78.7	221.8	136.4	5.8	41.8	32.8	52.7	36.1	31.5

MCL: Maximum contaminant level for drinking water (determined by California DHS)  
All analyses by LBNL EML unless otherwise noted

<	= Less than Quantitation Limit
	= Compound not included in analysis

**Table 5-3**  
**Bevalac Area Extraction Well Sampling Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	EW51-07-1		EW51-07-2		EW51A-06-1			EW51B-07-1			EW51B-07-2		
		Jan-08	Mar-08	Jan-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons														
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons														
Halogenated Non-Aromatic Hydrocarbons														
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<1	4.9	14.6	6.4	<1	<1	<1	<1	<1	<1
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	80	<3	<3	<3	<3	<3	3.7	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	7.3	6.5	1.2	1.8	<1	<1	<1	11.8	11.4	10.8	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	6.4	5.2	<1	<1	<1	<1	<1	18.2	19.9	18.5	<1	<1	<1
cis-1,2-Dichloroethene	6	126	117	<1	<1	10.6	23.5	7.6	29.2	30.7	30.6	7.8	6.9	6.7
trans-1,2-Dichloroethene	10	7.1	6.6	<1	<1	<1	<1	<1	<1	<1	1.1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	<1	2.5	8	2.6	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	1.1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	151	144	2.3	3.3	136	335	128	7.1	7.6	7.4	<1	<1	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	2.4	2.6	2.2
Total Halogenated Hydrocarbons		298.8	279.3	3.5	5.1	154	385.9	144.6	66.3	69.6	68.4	10.2	9.5	8.9
Total Concentration of VOCs		298.8	279.3	3.5	5.1	154	385.9	144.6	66.3	69.6	68.4	10.2	9.5	8.9

**Table 5-3 (Cont'd)**  
**Bevalac Area Extraction Well Sampling Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	EW51L-06-1			EW64-00-1			EW64-03-1			EW64-05-1		
		Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons													
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons													
Halogenated Non-Aromatic Hydrocarbons													
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	80	<3	<3	<3	<3	<3	<3	3.3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	2.9	1.5	1.8	16.6	11.9	5.3	11.4	2.8	26	1.4	2.4	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	3.8	2.3	1.2	<1	<1	2.1	1.4	1.2	1.1
cis-1,2-Dichloroethene	6	11.9	7	11.4	<1	<1	<1	<1	<1	1	1	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	3.9	2.6	1.9	<1	<1	<1	3.4	3.1	2.6
1,1,1-Trichloroethane	200	<1	<1	<1	1.9	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	9.8	8.3	8.3	5.4	3.8	2	2.2	<1	4.7	13	3.3	7.7
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	1.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbon		26.2	16.8	21.5	31.6	20.6	10.4	16.9	2.8	33.8	20.2	10	11.4
Total Concentration of VOCs		26.2	16.8	21.5	31.6	20.6	10.4	16.9	2.8	33.8	20.2	10	11.4

MCL: Maximum contaminant level for drinking water (determined by California DHS)  
All analyses by LBNL EML unless otherwise noted

<	= Less than Quantitation Limit
	= Compound not included in analysis

**Table 6-1**  
**Old Town Area Groundwater Monitoring Well Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	5-93-10			6-92-17	6-95-14 <sup>1</sup>	7-92-19	7-94-3	7-95-22			7-95-23			7B-95-21
		Jan-08	Feb-08	Mar-08	Feb-08	Jan-08	Feb-08	Feb-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08
Aromatic or Non-Halogenated Hydrocarbons															
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5		<5	<5	<5	<5	<5	<5		<5	<5		<5
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons															
Halogenated Hydrocarbons															
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	2.9	1.1	3.6	3	4.2	2.3	<1
Chloroform	80	<3	<3	<3	9.5	6.8	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	1.1	<1	1.5	1.1	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<1	<1	<1	<1	<1	2	5	<1	7.2	5.9	<1	2.4	2.2
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	6.9	<1	<1	<1	<1	<1	<1	1.2
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	<1	1.9	1.5	14.6	152	46.4	168	160	94.8	67.7	38.8
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	2.3	1.8	3.1	10.5	3.6	<1	6.8	93.2	16	103	94.1	125	101	55.3
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1		<1	<1	<1	<1	<1	<1		<1	<1		<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		2.3	1.8	3.1	20	12.3	1.5	30.3	254.2	63.5	283.3	264.1	224	173.4	97.5
Total Concentration of VOCs		2.3	1.8	3.1	20	12.3	1.5	30.3	254.2	63.5	283.3	264.1	224	173.4	97.5

**Table 6-1 (Cont'd)**  
**Old Town Area Groundwater Monitoring Well Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	7B-95-21 (Cont'd)		7B-95-24			7B-95-25		25-95-5			25-95-27	25-98-10		
		Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Mar-08	Jan-08*	Feb-08*	Mar-08*	Jan-08	Jan-08*	Feb-08*	Mar-08*
Aromatic or Non-Halogenated Hydrocarbons															
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1				<1			
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1				<1			
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1				<1			
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1				<1			
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2				<2			
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1				<1			
Methyl tert-Butyl Ether	13	<5		<5	<5		<5					<5			
Naphthalene		<2	<2	<2	<2	<2	<2	<2				<2			
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1				<1			
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1				<1			
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1				<1			
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<1	<1	<1	<2	<1	<1	<1
Total Aromatic Hydrocarbons															
Halogenated Hydrocarbons															
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	1.6
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<0.5	<0.5	<0.5	<3	<0.5	<0.5	<0.5
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
cis-1,2-Dichloroethene	6	8.8	9	<1	<1	1.3	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
trans-1,2-Dichloroethene	10	5.6	5.3	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<0.5	<0.5	<0.5	<2	<0.5	<0.5	<0.5
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Tetrachloroethene	5	114	119	48.3	19.2	33.2	<1	3.8	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Trichloroethene	5	210	230	13.3	3.3	11.2	<1	2.5	0.58	0.6	0.54	<1	<0.5	0.76	2
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Freon-123A		<1		<1	<1		<1					<1			
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<0.5	<0.5	<0.5	<1	<0.5	<0.5	<0.5
Total Halogenated Hydrocarbons		338.4	363.3	61.6	22.5	45.7		6.3	0.58	0.6	0.54			0.76	3.6
Total Concentration of VOCs		338.4	363.3	61.6	22.5	45.7		6.3	0.6	0.6	0.5			0.8	3.6

**Table 6-1 (Cont'd)**  
**Old Town Area Groundwater Monitoring Well Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	25A-95-15		25A-98-1			25A-98-3			25A-98-7				25A-99-2	27-92-20		
		Feb-08	(D)*	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	(D)*	Mar-08	Jan-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons																	
Benzene	1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
n-Butylbenzene		<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1
sec-Butylbenzene		<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1
ter-Butylbenzene		<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
Isopropylbenzene		<2		<2	<2	<2	<2	<2	<2	<2	<2		<2	<2	<2	<2	<2
p-Isopropyltoluene		<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5		<5	<5		<5	<5		<5	<5			<5	<5		
Naphthalene		<2		<2	<2	<2	<2	<2	<2	<2	<2		<2	<2	<2	<2	<2
n-Propylbenzene		<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1
Toluene	150	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1		<1	<1	<1	<1	<1	<1	<1	<1		<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<1	<2	<2	<2	<2	<2	<2	<2	<2	<1	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons																	
Halogenated Hydrocarbons																	
Bromodichloromethane	80	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
Bromoform	80	<2	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
Chloroform	80	<3	<0.5	<3	<3	<3	<3	<3	<3	<3	<3	<0.5	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<0.5	3.3	6.6	2.1	1.5	1	<1	<1	<1	<0.5	<1	3.2	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<0.5	3.4	4.9	2.8	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<1	<0.5	<1	2.1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<0.5	<2	<2	<2	<2	<2	<2	<2	<2	<0.5	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	2.1	1.2	1.4
1,1,1-Trichloroethane	200	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
Trichloroethene	5	<1	<0.5	109	218	62.7	20	16.8	19.4	11.1	11.4	13	8.2	88.9	2.2	2.2	2.4
Freon-113	1200	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
Freon-123A		<1		<1	<1		<1	<1		<1	<1			<1	<1	<1	
Vinyl Chloride	0.5	<1	<0.5	<1	<1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons				115.7	231.6	67.6	21.5	17.8	19.4	11.1	11.4	13	8.2	92.1	4.3	3.4	3.8
Total Concentration of VOCs				115.7	231.6	67.6	21.5	17.8	19.4	11.1	11.4	13	8.2	92.1	4.3	3.4	3.8



**Table 6-1 (Cont'd)**  
**Old Town Area Groundwater Monitoring Well Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	46-93-12	52-95-2B			52-98-9				52A-98-8B			53-93-9		
		Jan-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons															
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5		<5	<5	<5		<5	<5		<5	<5	
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons															
Halogenated Hydrocarbons															
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	1.2	1	<1	<1	<1	<1	1	<1	<1
Chloroform	80	<3	<3	<3	<3	3.3	3.9	3.5	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<1	<1	<1	1.2	1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	<1	<1	1.8	<1	<1	<1	<1	<1	2.9	1.9	2.3
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	1.1	2.6	2.6	2	2.5	2.5	2.4	2.3	1.3	1.8	1.6	2.9	2.3	2.2
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1	<1		<1	<1	<1		<1	<1		<1	<1	
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		1.1	2.6	2.6	2	7	10.4	6.9	2.3	1.3	1.8	1.6	6.8	4.2	4.5
Total Concentration of VOCs		1.1	2.6	2.6	2	7	10.4	6.9	2.3	1.3	1.8	1.6	6.8	4.2	4.5

**Table 6-1 (Cont'd)**  
**Old Town Area Groundwater Monitoring Well Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	53-93-16-69'			53-95-12	53-96-1				58-93-3	58-95-19	58-96-11				58-00-12	
		Jan-08	Feb-08	Mar-08	Mar-08	Jan-08	Feb-08	(D)*	Mar-08	Feb-08	Feb-08	Jan-08	Feb-08	(D)*	Mar-08	Jan-08	Feb-08
Aromatic or Non-Halogenated Hydrocarbons																	
Benzene	1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<5	<5	<0.5	<5	<50	<50
n-Butylbenzene		<1	<1	<1	<1	<1	<1		<1	<1	<1	<5	<5		<5	<50	<50
sec-Butylbenzene		<1	<1	<1	<1	<1	<1		<1	<1	<1	<5	<5		<5	<50	<50
ter-Butylbenzene		<1	<1	<1	<1	<1	<1		<1	<1	<1	<5	<5		<5	<50	<50
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1		<1	<1	<1	<5	<5		<5	<50	<50
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<5	<5	<0.5	<5	<50	<50
Isopropylbenzene		<2	<2	<2	<2	<2	<2		<2	<2	<2	<10	<10		<10	<100	<100
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1		<1	<1	<1	<5	<5		<5	<50	<50
Methyl tert-Butyl Ether	13	<5	<5	<5	<5	<5	<5			<5	<5	<25	<25			<250	<250
Naphthalene		<2	<2	<2	<2	<2	<2		<2	<2	<2	<10	<10		<10	<100	<100
n-Propylbenzene		<1	<1	<1	<1	<1	<1		<1	<1	<1	<5	<5		<5	<50	<50
Toluene	150	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<5	<5	<0.5	<5	<50	<50
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1		<1	<1	<1	<5	<5		<5	<50	<50
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1		<1	<1	<1	<5	<5		<5	<50	<50
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<1	<2	<2	<2	<10	<10	<1	<10	<100	<100
Total Aromatic Hydrocarbons																	
Halogenated Hydrocarbons																	
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<5	<5	<0.5	<5	<50	<50
Bromoform	80	<2	<2	<2	<2	<2	<2	<0.5	<2	<2	<2	<10	<10	<0.5	<10	<100	<100
Carbon Tetrachloride	0.5	2.4	1.7	2.4	<1	2.9	4	4.8	1.9	<1	<1	17.5	23.9	28	13.4	274	236
Chloroform	80	<3	<3	<3	<3	<3	<3	1.9	<3	<3	<3	<15	<15	1.2	<15	<150	<150
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<0.5	<1	9	1.4	<5	<5	0.85	<5	<50	<50
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<0.5	<2	<2	<2	<10	<10	<0.5	<10	<100	<100
1,1-Dichloroethene	6	<1	<1	<1	<1	1.5	1.4	1.9	1.2	11.1	1.6	<5	5.1	5.8	<5	<50	<50
cis-1,2-Dichloroethene	6	1.3	<1	1.3	1.4	3.5	2.1	2.5	3.3	9.6	119	17.9	19.4	24	15.3	104	78
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	1.5	<5	<5	<0.5	<5	<50	<50
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5	<5	<1	<5	<50	<50
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<0.5	<2	<2	<2	<10	<10	<0.5	<10	<100	<100
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<5	<5	<0.5	<5	<50	<50
Tetrachloroethene	5	26.2	12.9	27.7	2.2	36.7	32.5	40	33.6	30.5	38.6	623	691	680	394	6,300	5,240
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<0.5	<1	2.9	<1	<5	<5	<0.5	<5	<50	<50
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<0.5	<1	<1	<1	<5	<5	<0.5	<5	<50	<50
Trichloroethene	5	12.4	6.5	12.8	1	15.4	12.9	16	14.2	23.1	145	445	490	490	318	4,580	3,440
Freon-113	1200	<1	<1	<1	<1	<1	<1	0.74	<1	<1	<1	<5	<5	<0.5	<5	<50	<50
Freon-123A		<1	<1	<1	<1	<1	<1			<1	<1	<5	<5			<50	<50
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<0.5	<1	1.8	<1	<5	<5	<0.5	<5	<50	<50
Total Halogenated Hydrocarbons		42.3	21.1	44.2	4.6	60	52.9	67.84	54.2	88	307.1	1,103.4	1,229.4	1,229.9	740.7	11,258	8,994
Total Concentration of VOCs		42.3	21.1	44.2	4.6	60	52.9	67.8	54.2	88	307.1	1,103	1,229	1,230	740.7	11,258	8,994

**Table 6-1 (Cont'd)**  
**Old Town Area Groundwater Monitoring Well Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	58-00-12 (Cont'd)		58A-94-14	MW90-2		MW91-8			MW91-9			MWP-4	MWP-5	MWP-6	MWP-7	MWP-8
		(D)*	Mar-08	Feb-08	Jan-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Jan-08	Feb-08	Jan-08	Jan-08
Aromatic or Non-Halogenated Hydrocarbons																	
Benzene	1	<0.5	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene			<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene			<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene			<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5		<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<0.5	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene			<100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene			<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13			<5	<5		<5	<5		<5	<5		<5	<5	<5	<5	<5
Naphthalene			<100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene			<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<0.5	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene			<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene			<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<1	<100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons																	
Halogenated Hydrocarbons																	
Bromodichloromethane	80	<0.5	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	1.4	<100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	210	338	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	8	<150	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	4.1	<50	6.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	1.1	<100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	36	<50	16.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	90	98.6	29.9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<0.5	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<0.5	<100	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<0.5	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	3,900	6,480	<1	9.1	3	<1	<1	<1	4.6	4.6	4	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<0.5	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	1.7	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	2,700	4,840	1.1	<1	<1	<1	<1	<1	1.4	1.1	1.3	<1	<1	<1	1.3	<1
Freon-113	1200	<0.5	<50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A				<1	<1		<1	<1		<1	<1		<1	<1	<1	<1	<1
Vinyl Chloride	0.5	1.2	<50	1.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons		6,953.5	11,757	55.4	9.1	3				6	5.7	5.3				1.3	
Total Concentration of VOCs		6,954	11,757	55.4	9.1	3				6	5.7	5.3				1.3	

MCL: Maximum contaminant level for drinking water (determined by California DHS)  
All analyses by LBNL EML unless otherwise noted  
\* = Analysis by BC Laboratories

< = Less than Quantitation Limit  
= Compound not included in analysis

(D) = Duplicate sample  
<sup>1</sup>Treatment System Influent Line

**Table 6-2**  
**Old Town Area Temporary Groundwater Sampling Point Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	SB5A-98-1		SB16-97-11	SB16-98-1	SB25A-96-3	SB27-96-1			SB44-98-1	SB53-96-3			SB58-95-2	
		Jan-08	Mar-08	Mar-08	Mar-08	Feb-08	Jan-08	Feb-08	Mar-08	Mar-08	Jan-08	Feb-08	Mar-08	Mar-08	
Aromatic or Non-Halogenated Hydrocarbons															
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Methyl tert-Butyl Ether	13	<5		<5		<5	<5	<5		<5	<5	<5		<5	
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Total Aromatic Hydrocarbons															
Halogenated Non-Aromatic Hydrocarbons															
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.5	1.8	1.8	<1	
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8	
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
1,1-Dichloroethene	6	<1	<1	<1	<1	24.7	<1	<1	<1	<1	1.2	1.3	1.2	18.7	
cis-1,2-Dichloroethene	6	<1	<1	16.5	<1	4	<1	<1	<1	<1	5.2	5.1	4.5	8.8	
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Tetrachloroethene	5	<1	<1	<1	<1	<1	1.1	<1	1	<1	119	117	108	39.5	
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.6	
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Trichloroethene	5	<1	<1	<1	4.7	107	1.4	1	1.6	4.9	38.2	37.1	35.5	29.6	
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Freon-123A		<1		<1		<1	<1	<1		<1	<1	<1		<1	
Vinyl Chloride	0.5	<1	<1	1.1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.8	
Total Halogenated Hydrocarbons					17.6	4.7	135.7	2.5	1	2.6	4.9	165.1	162.3	151	108
Total Concentration of VOCs				19≈	4.7	135.7	2.5	1	2.6	4.9	165.1	162.3	151	108	

**Table 6-2 (Cont'd)**  
**Old Town Area Temporary Groundwater Sampling Point Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	SB58-96-1		SB58-96-2		SB58-97-1		SB58-97-2			SB58-98-1	SB58-98-6	SB58-01-02	SB58-02-2
		Jan-08	Mar-08	Jan-08	Mar-08	Jan-08	Mar-08	Jan-08	Feb-08	Mar-08	Mar-08	Feb-08	Mar-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons														
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5	<5	<5	<5	<5	<5		<5		<5	<5
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons														
Halogenated Non-Aromatic Hydrocarbons														
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	0.5	<1	<1	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	5.9	10.6
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	2.2	1.2	<1	<1	<1	<1	<1	<1	<1	17.3	19.4
cis-1,2-Dichloroethene	6	6.7	11.5	4.8	3.8	<1	1	28.4	19	10.1	<1	<1	6.3	14.4
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	22.2	23.7	89.8	58	3.7	2.6	<1	<1	<1	<1	1	22.3	59.8
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	22.4	33.5	44.8	35.8	1.2	1.3	2.4	1.3	1.5	1	<1	36	60.6
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1	<1	<1	<1	<1	<1	<1		<1		<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	1.7	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarb		51.3	68.7	142.6	98.8	4.9	4.9	32.5	20.3	11.6	1	1	87.8	164.8
Total Concentration of VOCs		51.3	68.7	142.6	98.8	4.9	4.9	32.5	20.3	11.6	1	1	87.8	164.8

MCL: Maximum contaminant level for drinking water (determined by California DHS)

All analyses by LBNL EML unless otherwise noted

< = Less than Quantitation Limit

= Compound not included in analysis

≈: Total concentration include other chemicals, detail shown on Table 10.

**Table 6-3**  
**Old Town Area Extraction Well Sampling Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	EW7-96-1			EW7-96-2			EW7-96-4R			EW7-03-1			EW7-03-2
		Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08
Aromatic or Non-Halogenated Hydrocarbons														
Benzene	1	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
n-Butylbenzene		<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
sec-Butylbenzene		<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
ter-Butylbenzene		<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
1,4-Dichlorobenzene	5	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Ethylbenzene	300	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Isopropylbenzene		<2	<20	<2	<2	<2	<2	<2	<20	<2	<2	<10	<10	<2
p-Isopropyltoluene		<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Methyl tert-Butyl Ether	13	<5	<50	<5	<5	<5	<5	<5	<50	<5	<5	<25	<25	<5
Naphthalene		<2	<20	<2	<2	<2	<2	<2	<20	<2	<2	<10	<10	<2
n-Propylbenzene		<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Toluene	150	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Xylenes, total	1750	<2	<20	<2	<2	<2	<2	<2	<20	<2	<2	<10	<10	<2
Total Aromatic Hydrocarbons														
Halogenated Non-Aromatic Hydrocarbons														
Bromodichloromethane	80	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Bromoform	80	<2	<20	<2	<2	<2	<2	<2	<20	<2	<2	<10	<10	<2
Carbon Tetrachloride	0.5	1.3	<10	<1	<1	<1	<1	<1	<10	<1	1.9	<5	<5	4.9
Chloromethane		<10	<100	<10	<10	<10	<10	<10	<100	<10	<10	<50	<50	<10
Chloroform	80	<3	<30	<3	<3	<3	<3	<3	<30	<3	<3	<15	<15	<3
1,1-Dichloroethane	5	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
1,2-Dichloroethane	0.5	<2	<20	<2	<2	<2	<2	<2	<20	<2	<2	<10	<10	<2
1,1-Dichloroethene	6	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
cis-1,2-Dichloroethene	6	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
trans-1,2-Dichloroethene	10	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
1,2-Dichloropropane	5	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Methylene Chloride	5	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
1,1,1,2-Tetrachloroethane		<2	<20	<2	<2	<2	<2	<2	<20	<2	<2	<10	<10	<2
1,1,1,2,2-Tetrachloroethane	1	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Tetrachloroethene	5	376	73.6	182	21.3	20.3	17.2	134	88.1	149	65.9	66.8	59	212
1,1,1-Trichloroethane	200	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
1,1,2-Trichloroethane	5	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Trichloroethene	5	12.6	<10	8.4	6.5	8.3	6.1	11.2	<10	11.3	27.2	25.6	24.1	64.7
Freon-113	1200	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Freon-123A		<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Vinyl Chloride	0.5	<1	<10	<1	<1	<1	<1	<1	<10	<1	<1	<5	<5	<1
Total Halogenated Hydrocarbon		389.9	73.6	190.4	27.8	28.6	23.3	145.2	88.1	160.3	95	92.4	83.1	281.6
Total Concentration of VOCs		389.9	73.6	190.4	27.8	28.6	23.3	145.2	88.1	160.3	95	92.4	83.1	281.6

**Table 6-3 (Cont'd)**  
**Old Town Area Extraction Well Sampling Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	EW7-03-2 (cont'd)		EW7-03-3			EW7-06-1			EW7C-04-2			EW25A-02-1		
		Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons															
Benzene	1	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5	<50	<50	<5	<5		<5	<5	<5	<5	<5	
Naphthalene		<2	<2	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons															
Halogenated Non-Aromatic Hydrocarbons															
Bromodichloromethane	80	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	4.7	4.4	17.6	22.2	21.2	<1	<1	<1	2.4	2.3	1.6	<1	<1	<1
Chloromethane		<10	<10	<10	<100	<100	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	80	<3	<3	<3	<30	<30	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	3	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	1.2	9.1	<10	10.4	41.9	15.6	1.7	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<20	<20	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	182	217	726	762	912	612	84.8	92.8	15.3	12	8.1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	61.8	63.5	302	290	366	185	31.2	17.3	2.8	2.4	1.5	3.9	2.1	2.1
Freon-113	1200	<1	<1	<1	<10	<10	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1	<1	<10	<10	<1	<1		<1	<1	<1	<1	<1	
Vinyl Chloride	0.5	<1	<1	<1	<10	<10	2.8	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbon		248.5	286.1	1057.7	1074.2	1309.6	841.7	131.6	111.8	20.5	16.7	11.2	3.9	2.1	2.1
Total Concentration of VOCs		248.5	286.1	1,058	1,074	1,310	841.7	131.6	111.8	20.5	16.7	11.2	3.9	2.1	2.1



**Table 6-3 (Cont'd)**  
**Old Town Area Extraction Well Sampling Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	EW53-04-2			EW58-98-1 <sup>T</sup>	EW58-98-2 <sup>T</sup>	EW58E-98-1		EW58E-98-2		EW58E-98-3		EW58E-98-4		
		Jan-08	Feb-08	Mar-08	Jan-08	Jan-08	Jan-08	Mar-08	Jan-08	Mar-08	Jan-08	Mar-08	Jan-08	Mar-08	
Aromatic or Non-Halogenated Hydrocarbons															
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Methyl tert-Butyl Ether	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Total Aromatic Hydrocarbons															
Halogenated Non-Aromatic Hydrocarbons															
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	9.3	7.3	1.2	1.1	1.5	2.8	<1	<1	
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	2.7	1.8	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene	6	1.1	1.1	<1	1.4	<1	14.7	10.3	4.1	4.5	4.9	8.5	2.2	3	
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Tetrachloroethene	5	1.8	1.6	1.7	<1	<1	352	278	46.6	53.2	61.9	118	5.4	9.7	
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Trichloroethene	5	2.6	2.5	1.4	2.5	<1	316	235	57.5	61.7	74.5	122	20.1	30.9	
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Freon-123A		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Total Halogenated Hydrocarbon		5.5	5.2	3.1	3.9		694.7	532.4	109.4	120.5	142.8	251.3	27.7	43.6	
Total Concentration of VOCs		5.5	5.2	3.1	3.9		694.7	532.4	109.4	120.5	142.8	251.3	27.7	43.6	

**Table 6-3 (Cont'd)**  
**Old Town Area Extraction Well Sampling Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	EW58E-98-5		EW58E-98-6		EW58E-98-7		EW58E-98-8		EW58-02-1			EW58-07-1		
		Jan-08	Mar-08	Jan-08	Mar-08	Jan-08	Mar-08	Jan-08	Mar-08	Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons															
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons															
Halogenated Non-Aromatic Hydrocarbons															
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	80	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Carbon Tetrachloride	0.5	1.1	1.5	<1	<1	<1	<1	<1	<1	<1	1.6	1.2	1.5	2.1	1.7
Chloromethane		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	8.5	9.3	8.6
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.1	16.6	18.7	18.2
cis-1,2-Dichloroethene	6	6.7	6.3	6.9	4.8	5.1	1.9	7.1	4.1	3.2	4.6	4.6	9.2	9	9.8
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2	<1	<2	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	39.4	44	17.2	12.8	9.1	4.7	26.4	32.2	38	86.3	78.3	30.3	36.6	37.8
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.5	1.6	1.7
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	69.5	65.7	39.6	24.1	13.4	10.6	34.4	27.6	13	29.9	28.7	24.9	30.5	30.1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	1.4	1.2	1.1
Total Halogenated Hydrocarbon		116.7	117.5	63.7	41.7	27.6	17.2	67.9	63.9	54.2	122.4	113.9	93.9	109	109
Total Concentration of VOCs		116.7	117.5	63.7	41.7	27.6	17.2	67.9	63.9	54.2	122.4	113.9	93.9	109	109

MCL: Maximum contaminant level for drinking water (determined by California DHS)

All analyses by LBNL EML unless otherwise noted

<sup>1</sup>Treatment system influent samples

<	= Less than Quantitation Limit
	= Compound not included in analysis

**Table 6-4**  
**Old Town Area Sampling Results from Other Locations**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	MP7-99-1BR			MP7-99-2BR		
		Jan-08	Feb-08	Mar-08	Jan-08	Feb-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons							
Benzene	1	<5	<5	<5	<10	<10	<10
n-Butylbenzene		<5	<5	<5	<10	<10	<10
sec-Butylbenzene		<5	<5	<5	<10	<10	<10
ter-Butylbenzene		<5	<5	<5	<10	<10	<10
Ethylbenzene	300	<5	<5	<5	<10	<10	<10
Isopropylbenzene		<10	<10	<10	<20	<20	<20
p-Isopropyltoluene		<5	<5	<5	<10	<10	<10
Methyl tert-Butyl Ether	13	<25	<25		<50	<50	
Naphthalene		<10	<10	<10	<20	<20	<20
n-Propylbenzene		<5	<5	<5	<10	<10	<10
Toluene	150	<5	<5	<5	<10	<10	<10
1,2,4-Trimethylbenzene		<5	<5	<5	<10	<10	<10
1,3,5-Trimethylbenzene		<5	<5	<5	<10	<10	<10
Xylenes, total	1750	<10	<10	<10	<20	<20	<20
Total Aromatic Hydrocarbons							
Halogenated Non-Aromatic Hydrocarbons							
Bromodichloromethane	80	<5	<5	<5	<10	<10	<10
Carbon Tetrachloride	0.5	<5	<5	<5	68	67.1	92.2
Chloroform	80	<15	<15	<15	<30	<30	<30
1,1-Dichloroethane	5	<5	<5	<5	<10	<10	<10
1,2-Dichloroethane	0.5	<10	<10	<10	<20	<20	<20
1,1-Dichloroethene	6	<5	<5	<5	<10	<10	<10
cis-1,2-Dichloroethene	6	<5	<5	<5	<10	13.9	<10
trans-1,2-Dichloroethene	10	<5	<5	<5	<10	<10	<10
1,2-Dichloropropane	5	<5	<5	<5	<10	<10	<10
Methylene Chloride	5	<5	<5	<5	<10	<10	<10
1,1,1,2-Tetrachloroethane		<10	<10	<10	<20	<20	<20
1,1,2,2-Tetrachloroethane	1	<5	<5	<5	<10	<10	<10
Tetrachloroethene	5	36.1	23.4	77.6	3530	3040	3570
1,1,1-Trichloroethane	200	<5	<5	<5	<10	<10	<10
1,1,2-Trichloroethane	5	<5	<5	<5	<10	<10	<10
Trichloroethene	5	17.8	9.6	49.9	376	482	806
Freon-113	1200	<5	<5	<5	<10	<10	<10
Freon-123A		<5	<5		<10	<10	
Vinyl Chloride	0.5	<5	<5	<5	<10	<10	<10
Total Halogenated Hydrocarbons		53.9	33	127.5	3,974	3,603	4,468.2
Total Concentration of VOCs		53.9	33	127.5	3,974	3,603	4,468

MCL: Maximum contaminant level for drinking water (determined by California DHS)  
All analyses by LBNL EML unless otherwise noted

<	= Less than Quantitation Limit
	= Compound not included in analysis

**Table 7-1**  
**Support Services Area Groundwater Monitoring Well Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	31-98-17	61-92-12	69-97-8			76-98-21	76-98-22	MW91-2
		Jan-08	Jan-08	Jan-08	Feb-08	Mar-08	Feb-08	Feb-08	Feb-08
Aromatic or Non-Halogenated Hydrocarbons									
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons									
Halogenated Non-Aromatic Hydrocarbons									
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<1	7.3	4.8	5.1	2.3	<1	6.4
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<1	<1	<1	<1	<1	6.1	<1	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons				7.3	4.8	5.1	8.4		6.4
Total Concentration of VOCs				7.3	4.8	5.1	8.4		6.4

MCL: Maximum contaminant level for drinking water (determined by California DHS)

All analyses by LBNL EML unless otherwise noted

< = Less than Quantitation Limit

**Table 7-2**  
**Support Services Area Groundwater Sampling Point Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	SB69A-99-1			SB69A-00-1	SB75-02-1	W76-97-3	W76-97-4	W76-97-5
		Jan-08	Feb-08	Mar-08	Feb-08	Feb-08	Mar-08	Mar-08	Mar-08
Aromatic or Non-Halogenated Hydrocarbons									
Benzene	1	1.1	1.1	1.0	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5		<5	<5			
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	2.2	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons		1.1	1.1	1.0	2.2				
Halogenated Non-Aromatic Hydrocarbons									
Bromodichloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane		<30	<30	<30	<30	<30	<30	<30	<30
Chloroform	80	<3	<3	<3	<3	3.0	<1	<1	<1
1,1-Dichloroethane	5	<1	<1	<1	<1	2.5	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	1.0	1.3	2.3	9.1	74.6	1.2	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2	<2	<2	<2	<2
Tetrachloroethene	5	<1	<1	<1	<1	<1	<1	<1	1.3
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<1	<1	<1	<1	11.3	17.5	<1	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1
Freon-123A		<1	<1		<1	<1			
Vinyl Chloride	0.5	4.6	3.6	5.5	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbon		5.6	4.9	7.8	9.1	91.4	18.7		1.3
Total Concentration of VOCs		6.7	6.0	8.8	11.3	91.4	18.7		1.3

MCL: Maximum contaminant level for drinking water (determined by California DHS)  
All analyses by LBNL EML unless otherwise noted

<	= Less than Quantitation Limit
	= Compound not included in analysis

**Table 8**  
**Outlying Areas Groundwater Monitoring Well Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
**(concentrations in µg/L)**

Constituent	MCL	CD-92-28 Jan-08	62-92-26 Jan-08	62-92-27 Jan-08	74-94-7 Jan-08	74-94-8 Jan-08	88-93-11A Feb-08	OW3-225 Jan-08	MWP-2 Jan-08
<b>Aromatic or Non-Halogenated Hydrocarbons</b>									
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons									
<b>Halogenated Hydrocarbons</b>									
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<1	<1	<1	<1	<1	<1	<1	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons									
Total Concentration of VOCs									

MCL: Maximum contaminant level for drinking water (determined by California DHS)  
All analyses by LBNL EML unless otherwise noted

< = Less than Quantitation Limit

**Table 9**  
**Hydrauger Monitoring Results**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	51-01-01 Jan-08	51-01-02 Jan-08	51-01-03 Jan-08	51-01-04 Jan-08
<b>Aromatic or Non-Halogenated Hydrocarbons</b>					
Benzene	1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1
Chlorobenzene		<1	<1	<1	<1
Ethylbenzene	700	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5	<5
Naphthalene		<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2
Total Aromatic Hydrocarbons					
<b>Halogenated Non-Aromatic Hydrocarbons</b>					
Bromodichloromethane	80	<1	<1	<1	<1
Carbon Tetrachloride	0.5	<1	<1	<1	<1
Chloroform	80	13.1	<3	<3	<3
Chloroethane		<30	<30	<30	<30
1,1-Dichloroethane	5	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<1	1.4	1.8
trans-1,2-Dichloroethene	10	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1
1,1,1,2-Tetrachloroethane		<2	<2	<2	<2
Tetrachloroethene	5	<1	<1	1.4	1.4
1,1,1-Trichloroethane	200	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1
Trichloroethene	5	<1	2.3	<1	1.6
Freon-11		<2	<2	<2	<2
Freon-113	1200	2.1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1
Total Halogenated Hydrocarbons		15.2	2.3	2.8	4.8
Total Concentration of VOCs		15.2	2.3	2.8	4.8

MCL: Maximum contaminant level for drinking water (determined by California DHS)

All analyses by LBNL EML unless otherwise noted

< = Less than Quantitation Limit

**Table 10**  
**Minor Chemical Detections in Site-Wide Wells**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	51-96-16	SB16-97-11
	Mar-08*	Mar-08
<b>Halogenated Non-Aromatic Hydrocarbons</b>		
2,2-Dichloropropane		1.4
<b>Other</b>		
Acetone	30	
Methyl ethyl ketone	33	

No MCLs have been established for these chemicals.

All analyses by LBNL EML unless otherwise noted

\* = Analysis by BC Laboratories



**Table 11**  
**Volatile Organic Compounds Detected in Groundwater Above MCLs**  
**EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

	Halogenated VOCs										Aromatic VOCs
	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride	Carbon Tetrachloride	1,1,2,2-Tetrachloroethane	Benzene
MCLs	5	0.5	6	6	10	5	5	0.5	0.5	1	1
Building 71 VOC Plume - Building 71B Lobe											
MW90-3				7.4		6.5	7.1				
MW71B-98-13								1.4			
MW71B-99-3R				9.9		13.8	22.2	2.9			
SB71B-03-1				132			52	35.6			
SB71B-03-2				24.5			6.9	9.1			
SB71B-04-1				10.1		29.9	12.7				
Building 51/64 VOC Plume											
MW51-96-15						5.9	6.6				
MW51-96-16				51	18		11	12			2.2
MW51-96-17								1.1			
MW51-96-18	33.6		6.7			72.2	30				
MW51-97-3	12.7		26.9	37.4			5.3	5.6			
MW51-97-12	8.1		10.7	67				3.2			
MW51-97-13	6.5							2.2			
MW51-00-9				31.6				1.5			
MW51-00-10				19.2							
MW51B-93-18A	9.4			23				4.7			
MW64-97-2	5.3										
SB64-98-8	156		31.6	6.1		42.5	74.6				
SB64-98-12	54.7		10.1	13.1			36	1.5			
SB64-98-13	31.8						28				
SB64-98-17	56.5		6.6					2.5			
SB64-99-4	506		68.7	15			34.8	12.9			

**Table 11 (Cont'd)**  
**Volatile Organic Compounds Detected in Groundwater Above MCLs**  
**EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

MCLs	Halogenated VOCs										Aromatic VOCs
	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride	Carbon Tetrachloride	1,1,2,2-Tetrachloroethane	Benzene
	5	0.5	6	6	10	5	5	0.5	0.5	1	1
SB64-99-5	69.4		34.3				13.3				
SB64-00-1	150		14.2	8.7			20.1	2.4			
SB64-00-2	31		144			17	48.4				
SB64-02-1A	2170	17.2	367	34.8		194	468	141		3	
SB64-02-1B	439		73.3	116		6.6	48.1	81.5			
SB64-02-1C	968	4.9	107	115			22.3	45.3			
SB64-02-1D	205	2.1	40.9	77.6			22.2	33.1			
SB64-02-1E	107		29	43.3			27.1	15.3			
SB64-02-1F	260	3.1	51.8	92.2		5.3	50.9	28.6			
SB64-02-2A	92.9		21.6	25.4		11.1	56.8	2.1			
SB64-02-2B	815	4.2	90.8	16.7			19.2				
SB64-02-2C	92.9		35.7	19.1			8.2	1.2			
SB64-02-2D	105		31	13.1			8				
SB64-02-2E	77		26.7	15.1			5				
SB64-02-2F	588	2.5	46.2	25.5			8.4	2			
SB64-03-1B	109		10.2				20				
SB64-03-5						5.6	66.7				
SB64-03-6						7.1	69				
SB64-03-13	7.2										
EW51-07-1	7.3		6.4	126			151	1			
EW51B-07-1	11.8		19.9	30.7			7.6				
EW51B-07-2				7.8				2.6			
EW64-00-1	16.6						5.4				
EW64-03-1	26										
EW64-05-1							13				

**Table 11 (Cont'd)**  
**Volatile Organic Compounds Detected in Groundwater Above MCLs**  
**EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

	Halogenated VOCs										Aromatic VOCs
	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride	Carbon Tetrachloride	1,1,2,2-Tetrachloroethane	Benzene
MCLs	5	0.5	6	6	10	5	5	0.5	0.5	1	1
Building 51L Plume											
SB51L-98-1A	7.4			78.1	10.5		66.8				
EW51A-06-1				23.5		8	335		14.6		
EW51L-06-1				11.9			9.8	1.6			
Old Town VOC Plume - Building 7 Lobe											
MW90-2						9.1					
MW7-94-3						14.6	6.8				
MW7-95-22				7.2		168	103		3.6		
MW7-95-23						160	125		4.2		
MW7B-95-21				9		119	230				
MW7B-95-24						48.3	13.3				
MW53-93-16-69'						27.7	12.8		2.4		
MW53-96-1						40	16		4.8		
MW58-93-3	9		11.1	9.6		30.5	23.1	1.8			
MW58-95-19				119		38.6	145				
MW58-96-11				24		691	490		28		
MW58-00-12		1.1	36	104		6480	4840	1.2	338		
MW58A-94-14	6.5		16.1	29.9				1.8			
SB53-96-3						119	38.2		1.8		
SB58-95-2	8		18.7	8.8		39.5	29.6	1.8			
SB58-96-1				11.5		23.7	33.5				
SB58-96-2						89.8	44.8		1		
SB58-97-2				28.4				1.7			
SB58-01-02	5.9		17.3	6.3		22.3	36				

**Table 11 (Cont'd)**  
**Volatile Organic Compounds Detected in Groundwater Above MCLs**  
**EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

MCLs	Halogenated VOCs										Aromatic VOCs
	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride	Carbon Tetrachloride	1,1,2,2-Tetrachloroethane	Benzene
	5	0.5	6	6	10	5	5	0.5	0.5	1	1
SB58-02-02	10.6		19.4	14.4		59.8	60.6				
EW7-96-1						376	12.6		1.3		
EW7-96-2						21.3	8.3				
EW7-96-4R						149	11.3				
EW7-03-1						66.8	27.2		1.9		
EW7-03-2						217	64.7		4.9		
EW7-03-3				10.4		912	366		22.2		
EW7-06-1				41.9		612	185	2.8			
EW7C-04-2						15.3			2.4		
EW58E-98-1				14.7		352	316		9.3		
EW58E-98-2						53.2	61.7		1.2		
EW58E-98-3				8.5		118	122		2.8		
EW58E-98-4						9.7	30.9				
EW58E-98-5				6.7		44	69.5		1.5		
EW58E-98-6				6.9		17.2	39.6				
EW58E-98-7						9.1	13.4				
EW58E-98-8				7.1		32.2	34.4				
EW58-02-1						86.3	29.9		1.6		
EW58-07-1	9.3		18.7	9.8		37.8	30.5	1.4	2.1		
MP7-99-1BR						77.6	49.9				
MP7-99-2BR				13.9		3570	806		92.2		
Old Town VOC Plume - Building 25A Lobe											
MW6-92-17							10.5				
MW25-98-10									1.6		

**Table 11 (Cont'd)**  
**Volatile Organic Compounds Detected in Groundwater Above MCLs**  
**EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

	Halogenated VOCs										Aromatic VOCs
	1,1-DCA	1,2-DCA	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	PCE	TCE	Vinyl Chloride	Carbon Tetrachloride	1,1,2,2-Tetrachloroethane	Benzene
MCLs	5	0.5	6	6	10	5	5	0.5	0.5	1	1
MW25A-98-1			6.6				218				
MW25A-98-3							20				
MW25A-98-7							13				
MW25A-99-2							88.9				
SB16-97-11				16.5				1.1			
SB25A-96-3			24.7				107				
Old Town VOC Plume - Building 52 Lobe											
MW52-98-9									1.2		
MW53-93-9									1		
Building 69 Area of Groundwater Contamination											
MW69-97-8				7.3							
SB69A-99-1								5.5			1.1
SB69A-00-1				9.1							
Building 75 Area of Groundwater Contamination											
SB75-02-1				74.6			11.3				
Building 76 Area of Groundwater Contamination											
MW76-98-21							6.1				
W76-97-3							17.5				
Building 77 Area of Groundwater Contamination											
MW91-2				6.4							

MCL: Maximum contaminant level for drinking water (determined by California DHS)

Note: Where duplicate or split samples were collected, or more than one sample was collected during the quarter, the maximum detected concentrations is shown.

**Table 12**  
**Groundwater Monitoring Results**  
**Tritium- Modified Method E906**  
**April 2007 through March 2008**  
(concentrations in pCi/L)

Area	Well No.	FY2007 Qtr 3 Apr-June	FY2007 Qtr 4 July-Sept	FY2008 Qtr 1 Oct-Dec	FY2008 Qtr 2 Jan-Mar
Groundwater Monitoring Wells					
1	71-95-9		373		387
3	69-97-21	<300			
	75B-92-24		1,370		673
	75-97-5		15,600 15,400 (D)		15,600
	75-97-7		652		349
	75-98-14		5,510		5,430
	75-99-6		5,280		3,980
4	76-93-6		2,550		2,540
	78-97-20				1,040
5	MWP-9		<300		
	MWP-10		<300		
	77-94-6		6,160		6,230
	77-97-9				6,390
	77-97-11		4,000		3,780
	31-97-17		1,330		1,210
	31-98-17	<300	<300	<300	<300
Temporary Groundwater Sampling Points					
3	SB69A-99-1		544		527
	SB69A-00-1		<300		
	SB75-02-1		1,020		1,050
	SB75A-02-1A		730		761
	SB75A-02-1B		<300		
5	SB31-02-1		1,260		1,230
	SB31-02-2		1,120		1,040
	SB31-02-4		2,000		
	SB31-02-5		1,970		
	SB31-02-6		582		562
	SB31-02-7		<300		
	SB31-03-1		2,110		
	SB31-03-2		2,790		
	SB31-03-4		1,680		
	SB77-02-1		<300		

**Table 12 (Cont'd)**  
**Groundwater Monitoring Results**  
**Tritium- Modified Method E906**  
**April 2007 through March 2008**  
 (concentrations in pCi/L)

		FY2007 Qtr 3 Apr-June	FY2007 Qtr 4 July-Sept	FY2008 Qtr 1 Oct-Dec	FY2008 Qtr 2 Jan-Mar
Area	Well No.				
Slope Stability/Indicator Facilities					
5	SSW17-130		835		575
	SSW19-130		689		398
	SSW20-130		1,320		943
	SSW21-130		<300		<300
Hydraugers					
5	77-02-05			1,700	
	77-03-02			<300	
	77-03-03			<300	
	77-04-11			<300	
Quality Assurance Samples					
Field Blank					<300
					<300
					<300

Maximum contaminant level (MCL) for drinking water for tritium determined by California DHS = 20,000 pCi/L

All samples were analyzed by Eberline

  = Not Sampled

< = Less than minimum detectable activity (MDA)

(D) = Duplicate sample

**Table 13**  
**Groundwater Monitoring Results**  
**Total Petroleum Hydrocarbons-EPA Modified Method 8015**  
**2nd Quarter FY 2008**  
**(concentrations in µg/L)**

Area	Location	Well No.	Date	TPH-D	
4	Building 76 Former Diesel and Gasoline Underground Storage Tanks	W76-97-3	Mar-08	<50	250 <sup>a</sup>
		W76-97-4		<50	320 <sup>a</sup>

All samples were analyzed by BC Laboratories.  
< = Less than minimum detectable activity (MDA)

<sup>a</sup> Analysis for Diesel Range Organics (C12-C24)  
TPH-D = TPH-Diesel



**Table 14a**  
**Surface Water Sampling Results**  
**VOCs and Metals**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Location		Date	VOCs	Metals																
				Sb	As	Ba	Be	Cd	Cr	Co	Cu	Pb	Hg	Mo	Ni	Se	Ag	Tl	V	Zn
Botonical Garden Creek		Feb-08	LT	<2	<2	73	<1	<1	<10	<50	<10	<1	<0.2	<50	<10	4.8	<10	<1	<10	11
Cafeteria Creek			LT	<2	<2	69	<1	<1	<10	<50	<10	<1	<0.2	<50	<10	<2	<10	<1	<10	33
Chicken Creek	Down Stream		LT	<2	<2	110	<1	<1	<10	<50	<10	<1	<0.2	<50	<10	2.4	<10	<1	<10	12
	Up Stream		LT	<2	2.8	91	<1	<1	<10	<50	<10	<1	<0.2	<50	<10	4.1	<10	<1	11	39
N.Fork Strawberry Creek	Down Stream		LT	<2	<2	90	<1	<1	<10	<50	<10	<1	<0.2	<50	<10	<2	<10	<1	<10	16
	Up Stream		LT	<2	<2	90	<1	<1	<10	<50	<10	<1	<0.2	<50	<10	<2	<10	<1	10	17
No Name Creek			LT	<2	<2	100	<1	<1	<10	<50	<10	<1	<0.2	<50	<10	<2	<10	<1	<10	<10
Ravine Creek			LT	<2	<2	73	<1	<1	<10	<50	<10	<1	<0.2	<50	<10	<2	<10	<1	<10	<10
Ten-Inch Creek			LT	<2	<2	63	<1	<1	<10	<50	<10	<1	<0.2	<50	<10	<2	<10	<1	<10	<10

VOC analyses by LBNL EML  
Metals analyses by BC laboratories.

LT	= Less than Quantitation Limit
<	= Not detected

**Table 14b**  
**Surface Water Sampling Results**  
**Tritium**  
**2nd Quarter FY 2008**  
 (concentrations in pCi/L)

Location		Date	Tritium
Chicken Creek	Down Stream	Feb-08	<300
	Up Stream		<300
North Fork Strawberry Creek	Down Stream		<300
	Up Stream		<300

Maximum contaminant level (MCL) for drinking water for tritium determined by California DHS = 20,000 pCi/L  
 All samples were analyzed by Eberline Services

< = Less than minimum detectable activity (MDA)

**Table 15**  
**Soil Sampling Results**  
**2nd Quarter FY 2008**  
(concentration in mg/kg)

				<b>PCB</b>
				8082
Location	Sample ID	Depth (ft)	Date	
Building 17	SS-17-08-F5-6ft	6	1/4/08	ND
	SS-17-08-F6-6ft	6		ND
	SS-17-08-F7-6ft	6		ND
	SS-17-08-F5-5ft	5		2.8 (PCB-1254)
	SS-17-08-F6-5ft	5		ND
	SS-17-08-F7-6ft	5		ND
	SS-17-08-F8-6ft	6	1/29/08	ND
	SS-17-08-W9-5ft	5		3.6 (PCB-1254)
	SS-17-08-W10-5ft	5		ND
	SS-17-08-W11-5ft	5		ND
	SS-17-08-W12-5ft	5		ND

All samples were analyzed by BC Laboratories  
ND indicates analyte was not detected by instrument

**Table 16**  
**Hydrochemical Indicator Parameters Sampling Results**  
**2nd Quarter FY 2008**

			Building 51/64 Groundwater Solvent Plume				Building 7 Lobe Old Town Plume	
Parameter	Units	Optimum Range in Concentration	MW51-96-16	MW51-96-17	MW51-97-12	MW51-97-13	MW58-93-3	MW58A-94-14
			Feb-08	Feb-08	Feb-08	Feb-08	Feb-08	Feb-08
Ethane (C <sub>2</sub> H <sub>6</sub> )		>10	0.069	0.15	0.13	0.14	0.032	<0.025
Ethene (C <sub>2</sub> H <sub>4</sub> )	µg/L	>10	11	0.81	0.092	2.1	0.062	0.36
Methane (CH <sub>4</sub> )		>500	11,000	1,400	550	7,300	4.6	1,500
Volatile Fatty Acids (VFAs)	mg/L	>0.1	124.8	0.25	0.49	ND		
Nitrate (NO <sub>3</sub> <sup>-</sup> )	mg/L	<1	<1	<0.5	<0.5	<0.5	4.1	0.89
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	mg/L	<20	1.7	19	16	12	57	54
Sulfide (H <sub>2</sub> S)	mg/L	>1	ND	ND	ND	ND	ND	ND
Total Sulfide	mg/L		<0.1	<0.1	<0.1	<0.5	<0.1	<0.1
Ferrous Iron (Fe <sup>2+</sup> )	mg/L	>1	2.5	ND	3.1	3.2	ND	ND
Dissolved Oxygen (DO)	mg/L	<0.5	0.1	0.28	0.42	0.01	0.18	0.61
pH	pH units	5 to 9	6.72	7.5	6.52	6.78	7.22	7.34
Temperature	°C	>20	19.3	18.2	17.8	19.2	16.3	17.4
Nitrite (NO <sub>2</sub> <sup>-</sup> )	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Dioxide (CO <sub>2</sub> )	ppm	> 2 times background	11.4	14.8	11.2	12	15.8	16.7

**Table 16 (Cont'd)**  
**Hydrochemical Indicator Parameters Sampling Results**  
**2nd Quarter FY 2008**

Parameter	Units	Optimum Range in Concentration	Building 69A Area of Groundwater Contamination			Building 71B Plume			
			MW69-97-8	SB69A-99-1	SB69A-00-1	MW71B-99-3R	SB71B-03-1	SB71B-03-2	MW71-95-9*
			Feb-08	Feb-08	Feb-08	Feb-08	Feb-08	Feb-08	Feb-08
Ethane (C <sub>2</sub> H <sub>6</sub> )	µg/L	>10	<0.025	0.057	0.2	<0.025	1.6	0.22	<0.025
Ethene (C <sub>2</sub> H <sub>4</sub> )		>10	<0.025	4.8	1.3	0.054	8.2	3.2	<0.025
Methane (CH <sub>4</sub> )		>500	<b>650</b>	<b>7,500</b>	<b>3,600</b>	34	<b>2,000</b>	<b>5,200</b>	<b>1,900</b>
Volatile Fatty Acids (VFAs)	mg/L	>0.1	ND	ND	ND	ND	<b>0.60</b>	<b>1.27</b>	ND
Nitrate (NO <sub>3</sub> <sup>-</sup> )	mg/L	<1	<b>&lt;0.5</b>	<b>&lt;1</b>	<b>&lt;0.5</b>	7.8	<b>&lt;0.5</b>	<b>&lt;0.5</b>	8.6
Sulfate (SO <sub>4</sub> <sup>2-</sup> )	mg/L	<20	<b>7.6</b>	<b>1.1</b>	<b>&lt;1</b>	25	28	32	25
Sulfide (H <sub>2</sub> S)	mg/L	>1	ND	ND	ND	ND	ND	ND	ND
Total Sulfide	mg/L		<0.1	<0.1	<0.1	<0.1			<0.1
Ferrous Iron (Fe <sup>2+</sup> )	mg/L	>1	<b>2.2</b>	<b>3</b>	<b>2.4</b>	ND	<b>1.2</b>	ND	<b>1.3</b>
Dissolved Oxygen (DO)	mg/L	<0.5	0.62	<b>0.04</b>	2.45	7.34	0.8	<b>0.16</b>	1.02
pH	pH units	5 to 9	<b>6.76</b>	<b>6.62</b>	<b>6.54</b>	<b>7.37</b>	<b>6.89</b>	<b>7.05</b>	<b>6.9</b>
Temperature	°C	>20	19.7	18.7	17.2	15	15.3	15.4	16.8
Nitrite (NO <sub>2</sub> <sup>-</sup> )	mg/L		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Carbon Dioxide (CO <sub>2</sub> )	ppm	> 2 times background	11.8	11.1	11.8	26	12.5	12.8	14.3

< indicates that analyte was not detected above method reporting limit noted.

Boldface type indicates that analytes were within optimum range for biodegradation.

\* Upgradient (background well) for Building 71B and Building 51/64 plumes.

ND indicates analyte was not detected by instrument.

Not analyzed or analysis not required.

**Table 17**  
**Groundwater Quality Control Samples**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	Equipment (Rinseate) Blanks														
		Jan-08	Jan-08	Jan-08	Jan-08	Jan-08	Feb-08	Feb-08	Feb-08	Feb-08	Feb-08	Mar-08	Mar-08	Mar-08	Mar-08	Mar-08
Aromatic and Non-Halogenated Hydrocarbons																
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons																
Halogenated Non-Aromatic Hydrocarbons																
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Dibromochloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons																
Total Concentration of VOCs																

**Table 17 (Cont'd)**  
**Groundwater Quality Control Samples**  
**Volatile Organic Compounds - EPA Method 8260**  
**2nd Quarter FY 2008**  
(concentrations in µg/L)

Constituent	MCL	Trip Blanks												
		Jan-08	Jan-08	Jan-08	Jan-08	Feb-08	Feb-08	Feb-08	Feb-08	Feb-08	Mar-08	Mar-08	Mar-08	Mar-08
Aromatic and Non-Halogenated Hydrocarbons														
Benzene	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
n-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
sec-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
ter-Butylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	300	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropylbenzene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
p-Isopropyltoluene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert-Butyl Ether	13	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5			
Naphthalene		<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
n-Propylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	150	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,4-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3,5-Trimethylbenzene		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Xylenes, total	1750	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Aromatic Hydrocarbons														
Halogenated Non-Aromatic Hydrocarbons														
Carbon Tetrachloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform	80	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3
Dibromochloromethane	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	0.5	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
1,1-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	10	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene Chloride	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Freon-113	1200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl Chloride	0.5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Total Halogenated Hydrocarbons														
Total Concentration of VOCs														

MCL: Maximum contaminant level for drinking water (determined by California DHS)  
All analyses by LBNL EML unless otherwise noted

<	= Less than Quantitation Limit
	= Compound not included in analysis